LABELING SYSTEMS, INC.

Engineering labeling solutions.

R-310

Round Product Labeler

Operator's Manual

Serial #

Operator's Manual
Version: E 1/28/2002

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SECTION 1 OVERVIEW

INTRODUCTION

Thank you for purchasing the R-310 semi-automatic round product labeler. The R-310 is known for high quality and operating convenience. With proper maintenance it will provide many years of dependable and trouble free service. We wish you much success with this product and will always welcome any suggestions you may have as to how we may improve our products. Read this manual and familiarize yourself with the machine before using this equipment.

Operation:
A round product is placed on the carriage rollers and against the end stop. When the operator presses the foot switch, a time delay cycle that controls an air cylinder is activated, the drive roller starts to rotate, and the label starts it's dispense cycle. Air supplied to the cylinder causes the carriage holding the product, to be elevated into contact with the drive roller. When the product makes contact with the drive roller, it will start to turn. At this point, the label is being peeled from the backing paper and will contact the product just in front of the drive roll. As the product continues to turn, the drive roller will press the label onto the container until the label is completely applied. The carriage will drop, the product can be removed, and the machine is ready to repeat the cycle.

UN-PACKING INSTRUCTIONS

When the machine is received, the shipping carton will contain the following items.

1. R-310 Body.
2. Foot Switch.
3. Unwind Assy.
4. Air Fitting, Part # 100373 ¼" NPT x 3/8".
5. 10' of 3/8" Air line.
6. 9/64" Allen Wrench. (inserted in air line for safe keeping)
7. This Manual in a Manila Envelope.

1. Carefully unpack the R-310 and place machine on a table or suitable flat surface. Be sure no small parts are left in box.
2. Verify contents of box with list above. Inspect machine for any damage. Report missing components or damage to your distributor immediately.

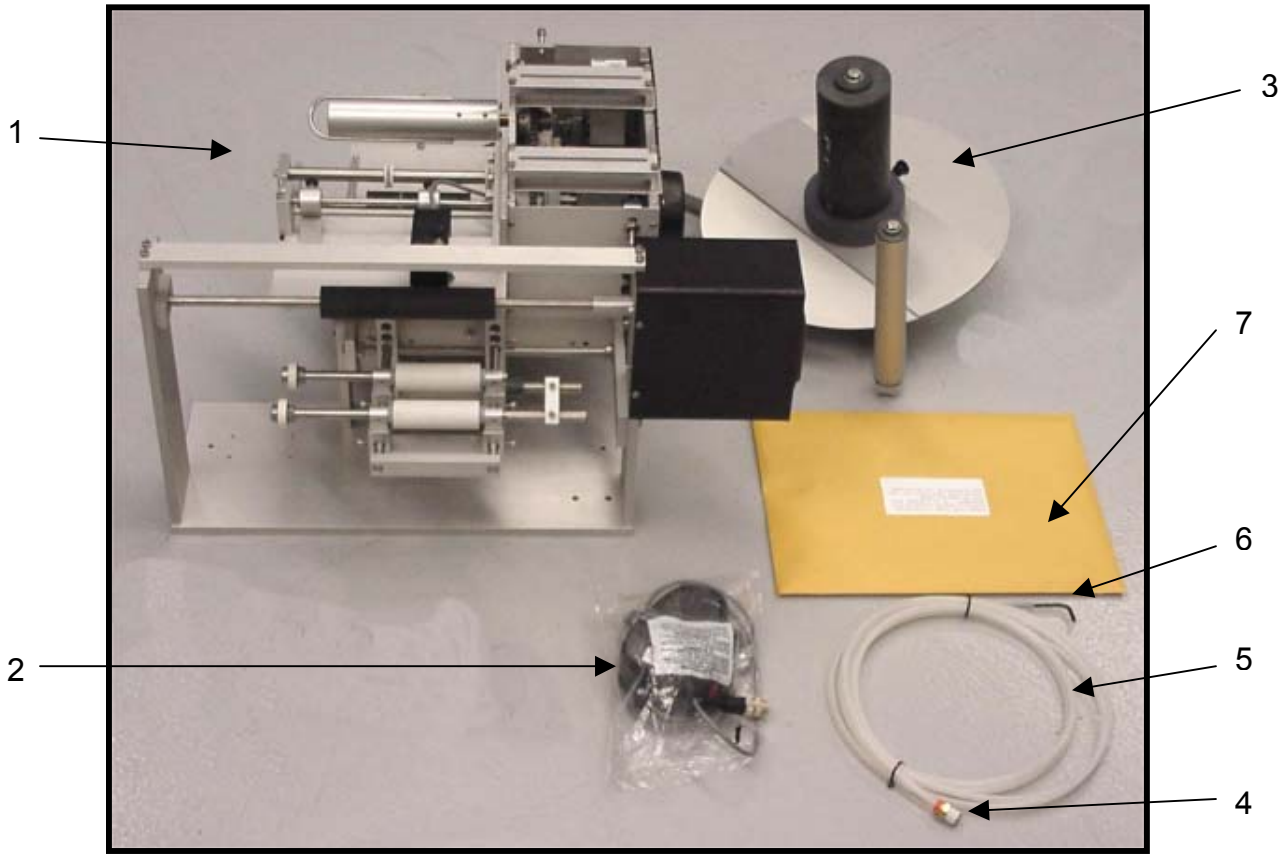


Fig 1

PRODUCT WARRANTY

Universal Labeling Systems, Inc. warranties all parts to be free from defects in material and workmanship for a period of one year from the date of shipment from our facility.

This guarantee is based upon equipment being used 8 hours per day, or 40 hours per week, or in any increment which does not total more than a single shift operation, or 2,080 hours per year. Warranty will be reduced proportionally.

This warranty does not cover parts failure caused by lack of normal maintenance, abuse or misuse of the equipment.

PERFORMANCE GUARANTEE

All equipment manufactured by Universal Labeling Systems, Inc. carries a 30-day performance guarantee. If your machinery does not perform as described in our quote to you within 30 days of shipping, Universal Labeling Systems, Inc. will make every attempt to correct it. If after a reasonable period of time, the machinery does not meet the specified performance, we will take your machine back and reimburse you in full.

SPECIFICATIONS

Electrical Power:	120VAC +/- 10%, 3 Amps, 60Hz
Compressed Air:	Clean, Dry, 20-40PSI, 5CFM
Product size:	½" to 6" (12.7mm to 154.2mm)
Web width:	up to 7-1/8" (180.97mm)
Machine Size:	21.24" Wide 27.36" Deep 24.32" Tall (539.5mm Wide X 695mm Deep X 617.7mm Tall)
Weight:	52 lbs (19.4 Kg)
Shipping Weight:	69 lbs (25.7 Kg)

SECTION 2 SETUP

ASSEMBLING THE R310

The only item that needs to be added to the R-310 is the Unwind Assy.

1. Turn your attention to the back of the R-310 where the AC Electrical cord is attached.
2. Remove the two screws where the Unwind Assembly will be assembled to the body using a 3/16” Allen wrench (not provided).
3. Remove the plates from the Unwind to reduce weight and make it easier to mount the assy.
4. Using a Square, mount the Unwind Assembly as shown below. The Long screw (¼-20 x 1-1/2”) goes in the top hole. The shorter screw (1/4-20 x 1-1/4”) is in the bottom.

Note: Double checks squareness after the screws are tight and make adjustments as necessary. The Unwind Assembly needs to be square to insure proper tracking of the labels onto the product.

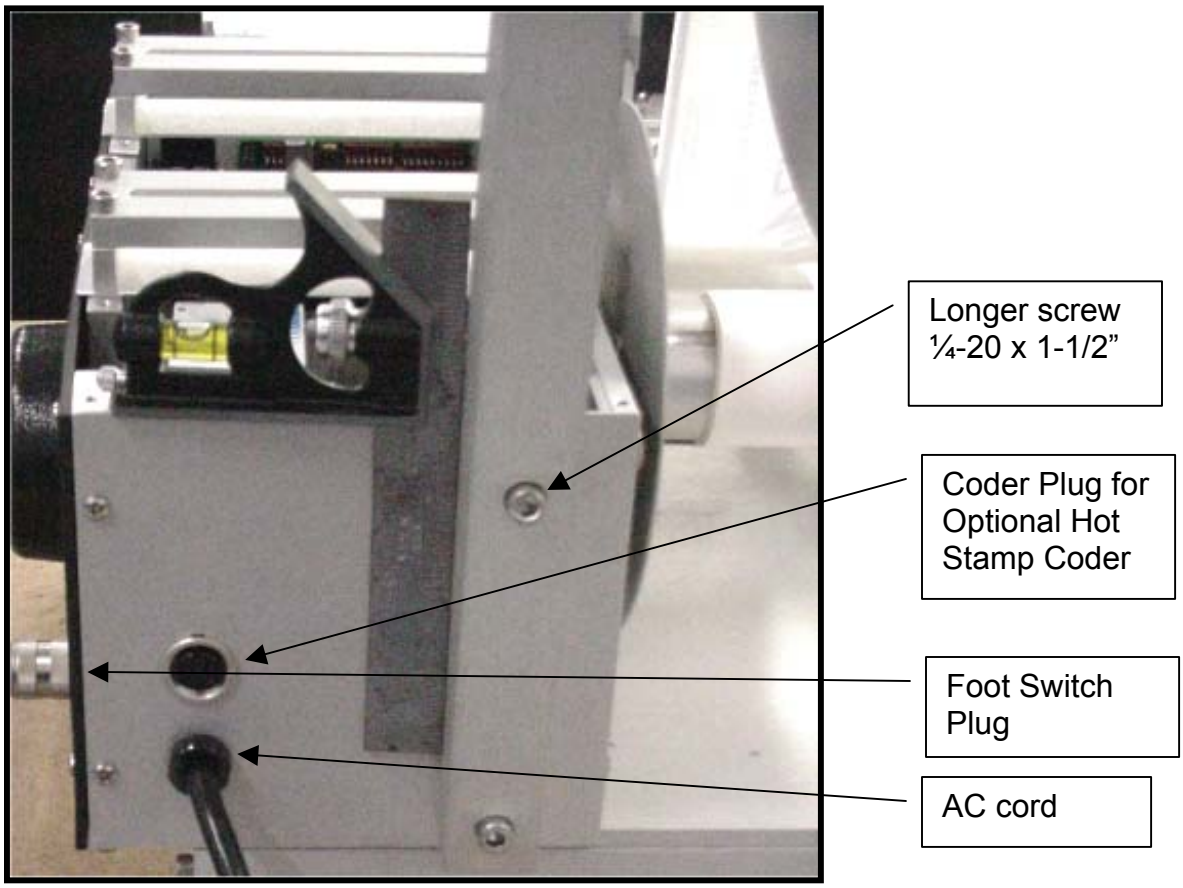


Fig 2

WEBBING THE R-310

Place the roll of labels on the unwind spool. Install the label disc and while pressing it against the label reel, tighten thumb screw. Remove enough labels so only backing paper is threaded from peeler plate back to rewind spool. Pull the web over the anti-stripper roller and down under the upper idler roll, between web guides and under star wheel. Set the web guides so that the web is held with minimum side play but still moves freely. Pull the web under peeler the plate, over top roll and between top and bottom roller and back under bottom roller to rewind spool.

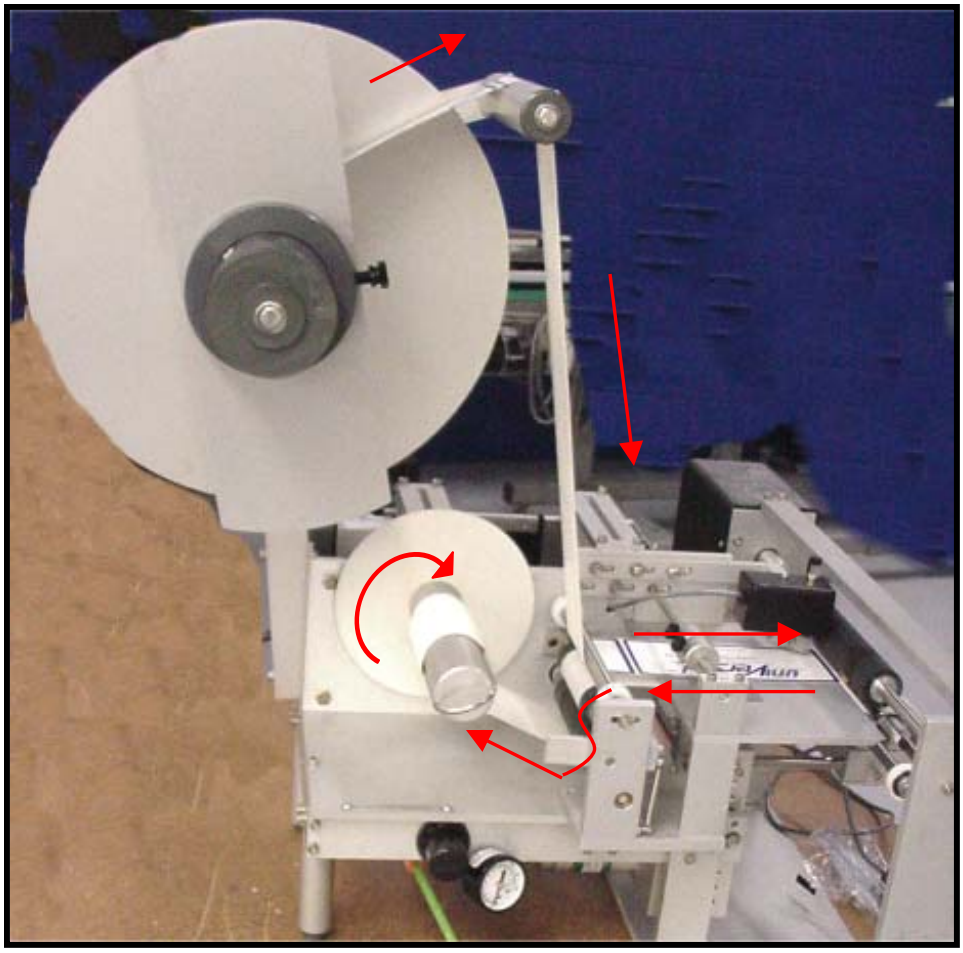


Fig **3**

WASTE REMOVAL

Break the web as shown and turn it opposite the running direction to loosen it. Then remove the retaining clip and remove the web and discard it.

Fig 4

CARRIAGE ADJUSTMENT AND PRODUCT PLACEMENT

SET CARRIAGE AS FOLLOWS

1. The product centerline should be slightly behind drive roller centerline when carriage is up, as shown by “Y” dim. in Fig. 5;
2. When product (A) is against drive roller, you should have a minimum 3/16” distance (dim.Z, Fig. 5) between product and peeler plate for product to sit well down between carriage idler rollers, (B, Fig.5)

Use a 9/64 Allen wrench to loosen 4 cap screws (C) and relocate carriage blocks. Also keeps in mind that moving the lower carriage roller assembly forward or back in the actuator arm will affect values of “Y and Z”. Refer to Fig. 6 on page 12 for this adjustment. You will have achieved close to equal spacing if roller centers visually form a triangle as shown by dotted lines in Fig. 5.
After verifying that a product works well at a given setting, it would be a good idea to mark the rods where carriage blocks are set.

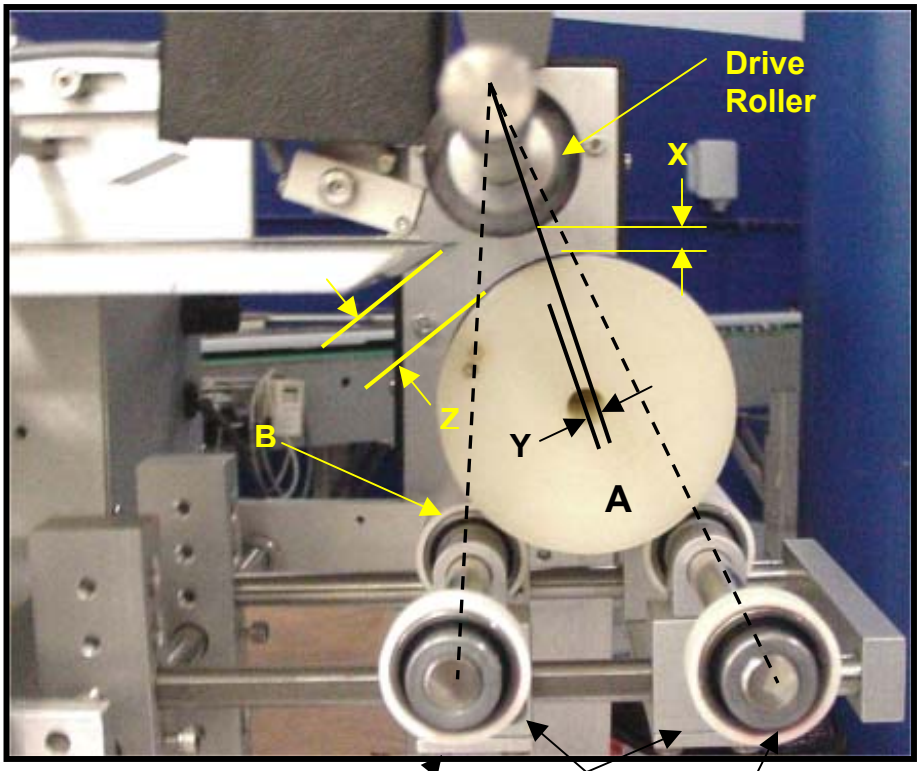


Fig 5

HORIZONTAL CARRIAGE ADJUSTMENT

Using adjusting screws (D, Fig. 6), you may slide “Standard Carriage Assembly” left or right to improve or change alignment of product with label. When making this adjustment, you should check position of product drive roller (Fig. 5 previous page) to be sure it is still located to properly roll down label. To adjust drive roller, loosen the set screws (E, Fig 6) in the roller and move left or right as required.

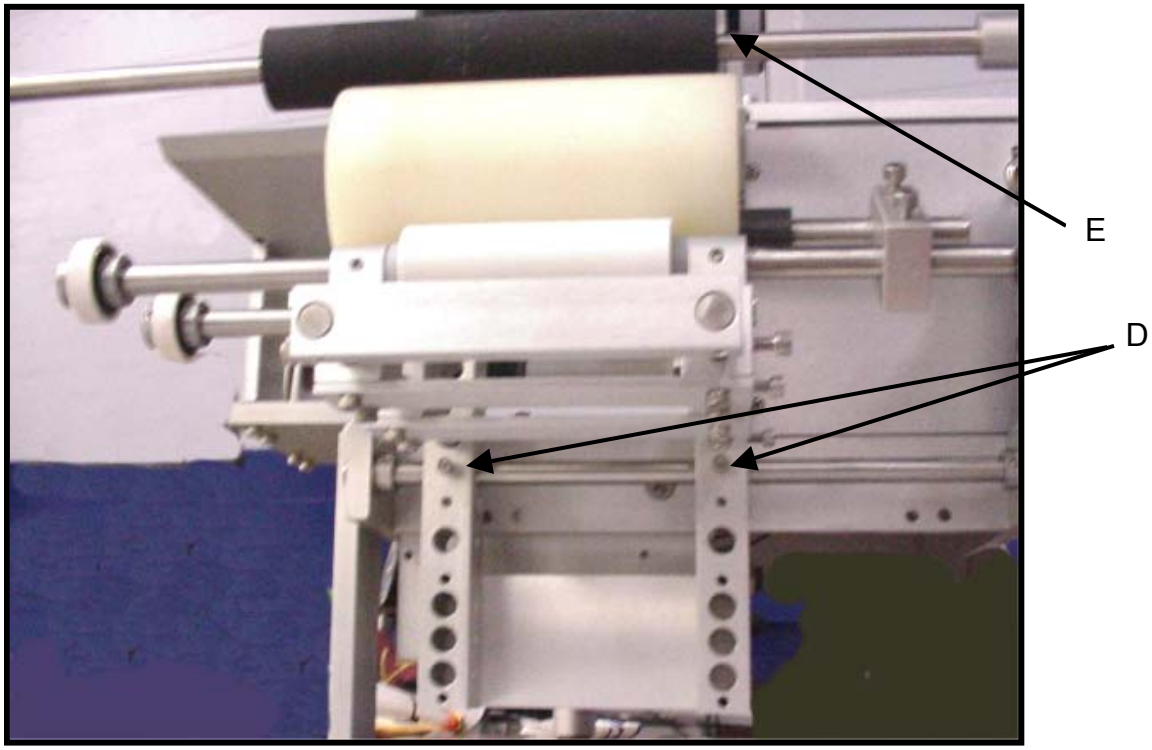


Fig 6

VERTICAL CARRIAGE ADJUSTMENT

This adjustment provides a means to relocate the lower carriage roller assembly into one of several pair of holes in the actuator arm, as shown by dotted lines in Fig. 7. The purpose is, to minimize the distance the product has to travel to contact the drive roller (dim. X, Fig. 4) from page 11. To adjust the assembly loosen the two 8-32 screws (E, Fig.7) on side of actuator arms and relocate roller assembly. Use 8-32 screws (F) to adjust bottle stop (G) to best position the label onto the product. The view of the carriage is set to run a Fasson chart #4 (left side off first) die cut label.

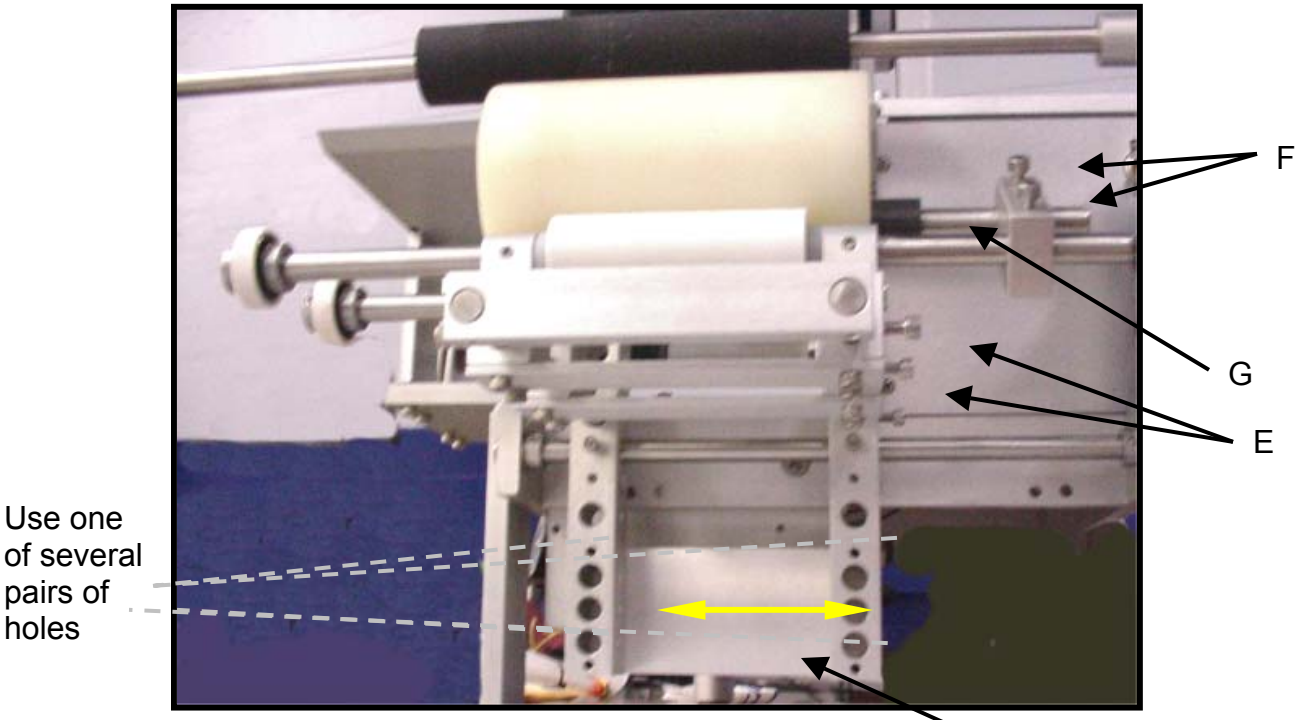


Fig 7

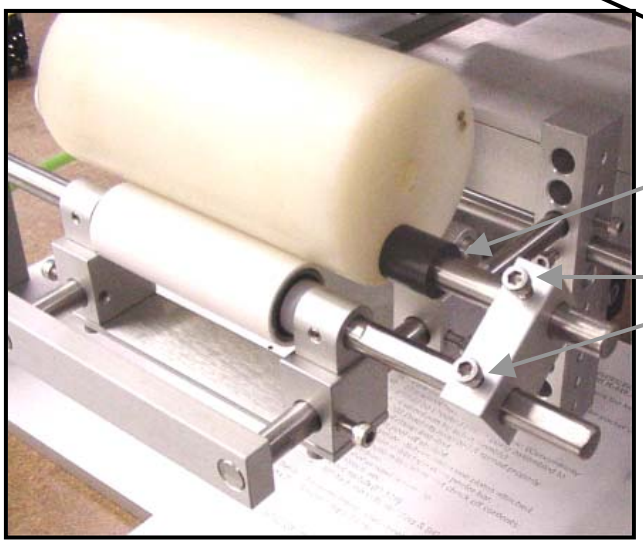


Fig 8

CARRIAGE ADJUSTMENT FOR TAPERED PRODUCTS

A tapered product can be labeled on the R-310 by adjusting the carriage as follows.

1. Remove the tie bars on the bottom of the carriage assembly (H, Fig. 9). There are 8 screws as shown in (J, Fig. 9).

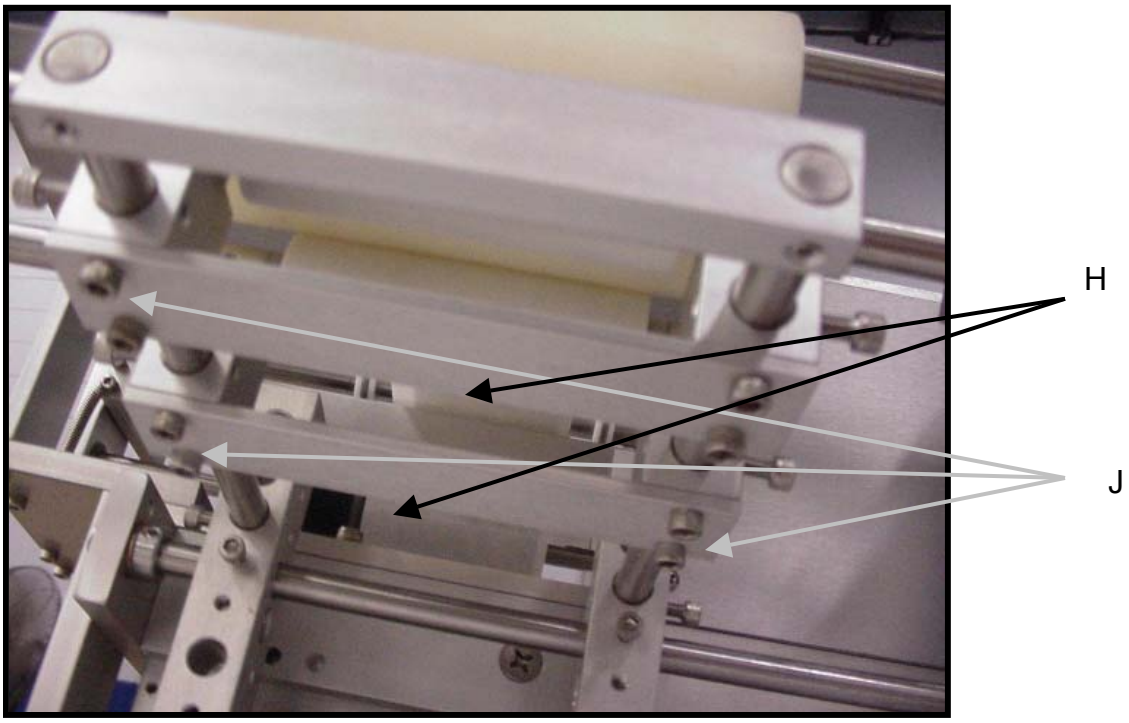


Fig 9

2. Loosen the screws on the carriage blocks (K, Fig 9a.)
3. Separate or move closer the rollers on one or both sides of the carriage depending on the taper of the product.

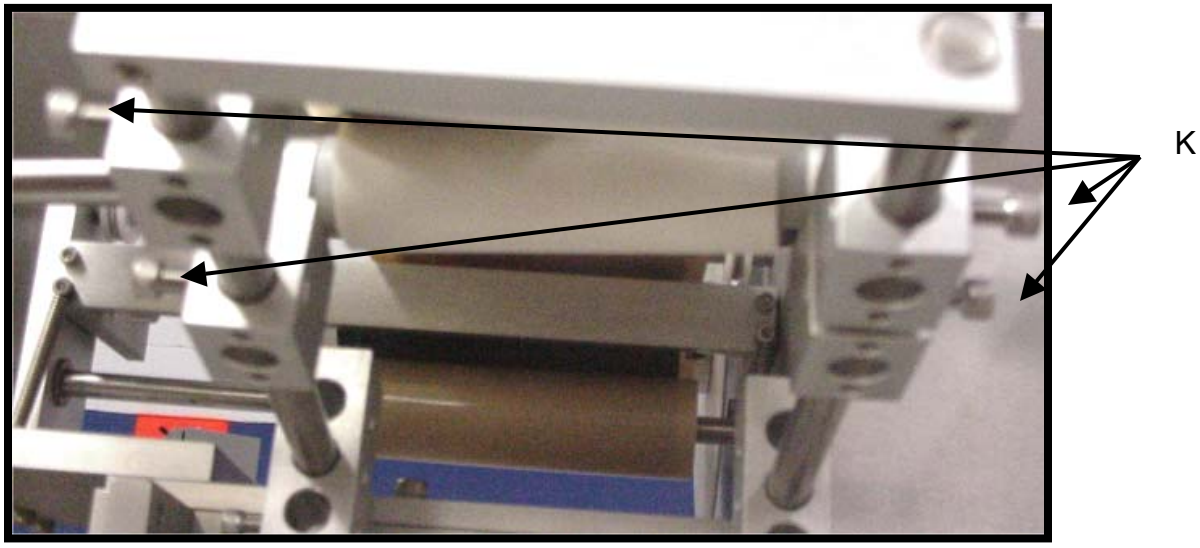


Fig 9a

4. Place a product on the rollers and move the product and roller assembly so the product contacts the drive roll evenly.
5. Position the whole carriage at an angle (Fig 9b). This is so the label starts onto the product at an angle. This may seem contradictory, but the label must start at an angle so it ends up looking straight on the product.

Note: Tapered Product must contact Drive roll parallel for straight label transfer.

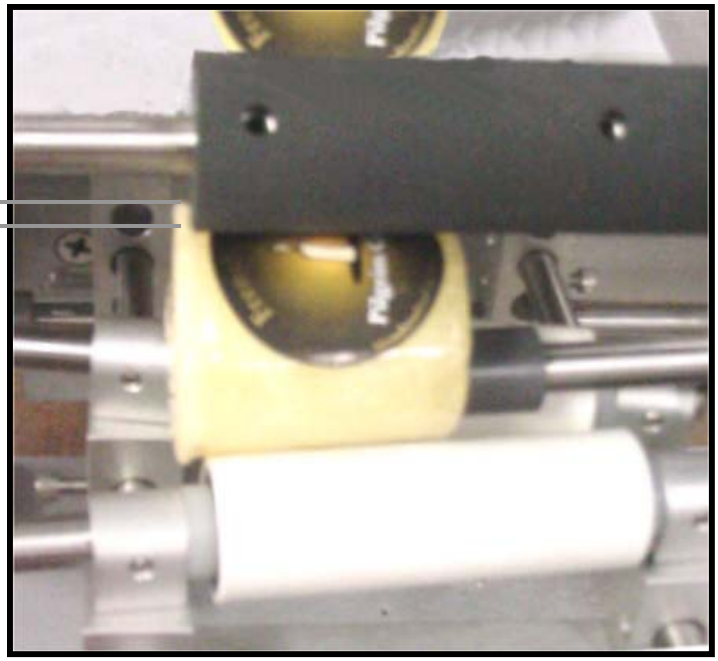


Fig 9b

The Drive roller may need to be moved to allow the product contact the roller parallel by loosening the 4 set screws (L, Fig 9c). Also the bottle stop was positioned so the product rests against it for consistent label placement.

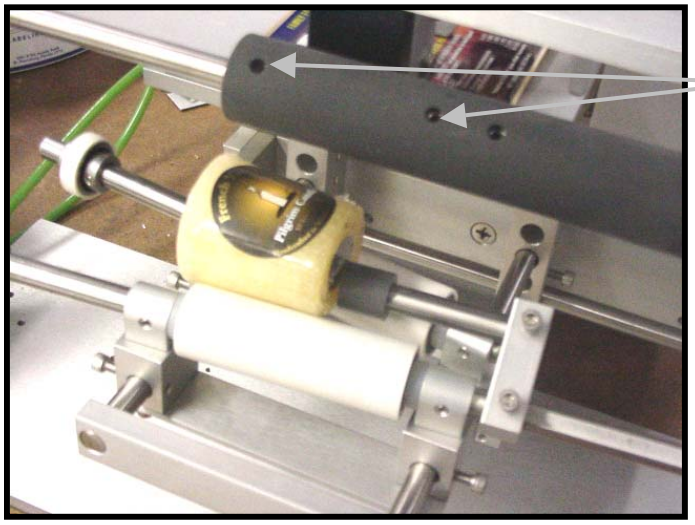


Fig 9c

Snug all screws and label a product or two and examine it for wrinkles or position. Tighten all screws when adjustments are finished.

PEELER PLATE ADJUSTMENT

The peeler plate assembly may require adjustment with the change of label length or product diameter. A short label with a small diameter product would require the edge (“A” Fig. 10) of the peeler plate to be closer to the Product Drive Roller “B” than a long label with a larger diameter product and will have to be adjusted accordingly.

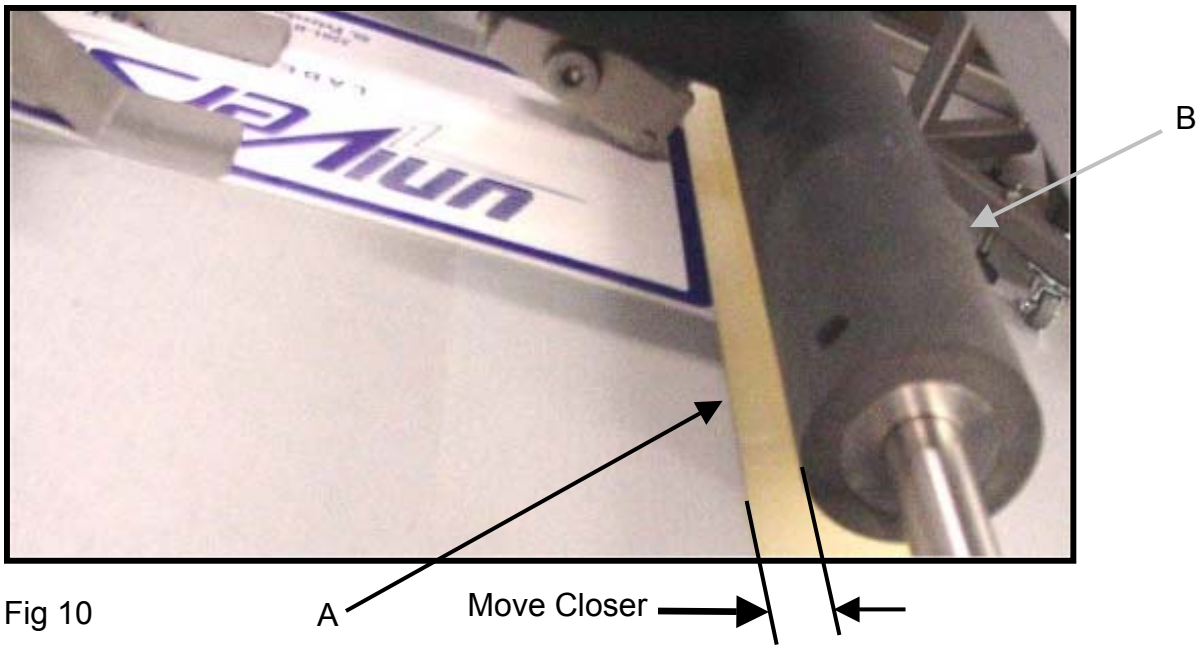


Fig 10

ADJUST PEELER PLATE AS FOLLOWS

1. Using the provided 9/64” Allen wrench just loosen – **DO NOT REMOVE** - the two 8-32 SHCS located on the left side of the peeler assy. (see “C” in fig. **11**)
2. Using the a 5/32” Allen wrench just loosen – **DO NOT REMOVE** - the two 10-32 SHCS located under the starwheel adjustment bar (see “D” in Fig. **11**) to the right of the peeler assy. (see “E” fig. **11**)
3. Adjust the peeler plate.
4. Re-tighten all screws.

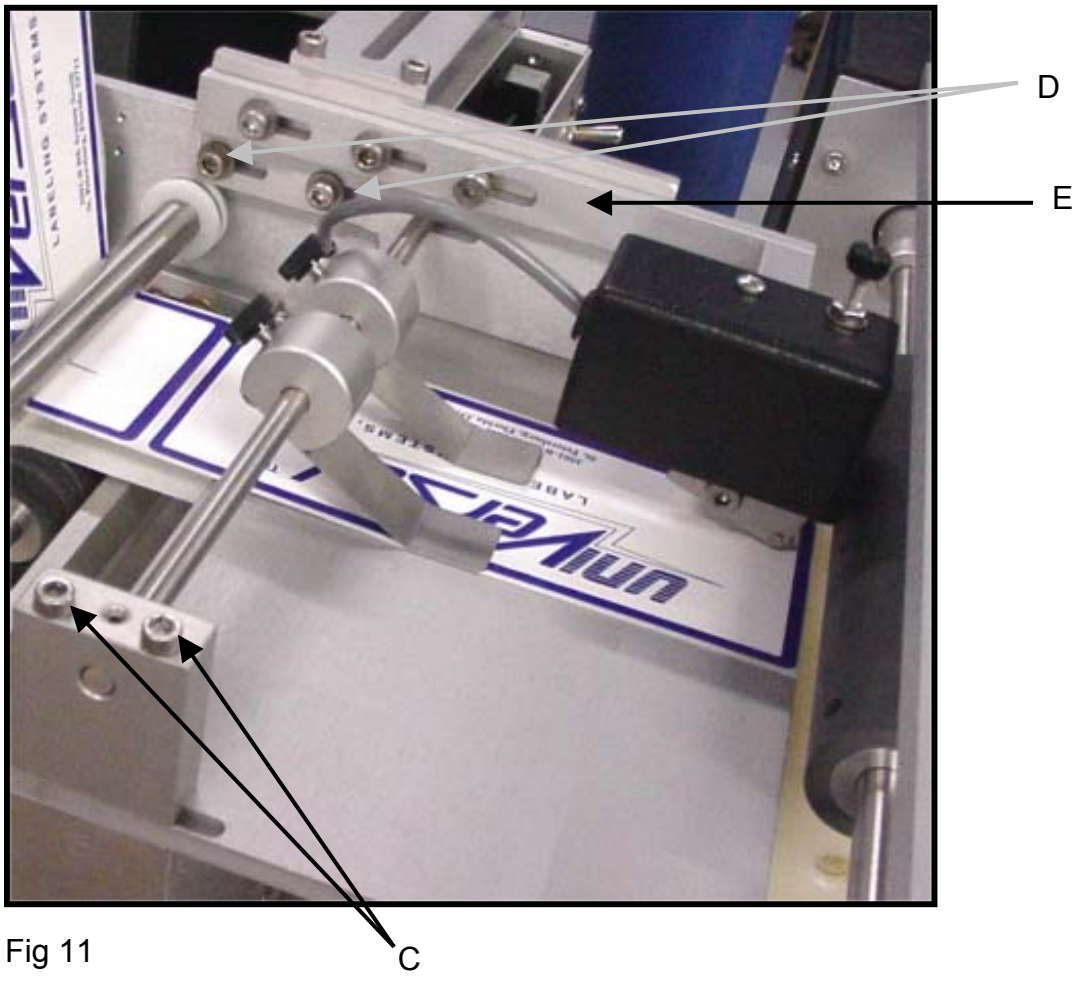


Fig 11

SECTION 3 OPERATION

Select the product to be labeled and place it on the white carriage rollers. Move the product to the right against the bottle stop, **take your hands away from carriage area** then depress the foot switch. After the carriage drops back down, remove the product and inspect the label for proper application. If label placement is correct, continue this procedure and occasionally check label. Minor adjustments to the machine may increase productivity. For example, the control knob on top near the back of the dispenser adjusts the time the product is in contact with the drive roller. This allows the product to drop as soon as label is applied. Doing so will allow an experience user to label more products during a period of time. Once the machine is set up properly, the operator's dexterity is the key to speed. If you make machine adjustments and are not sure of their effect, do only one adjustment at a time in small increments.

Timer:
The timer adjustment dial on top of the applier ("J", Fig. 12), allows you to adjust the time that the carriage is held up to apply a label. For long labels the carriage assy. needs to stay up longer to insure the label wraps all the way around the product. Turn dial clockwise to increase time the carriage stays up. Turn counterclockwise to decrease the time.
Note: The smaller knobs on the timer are not used at all.

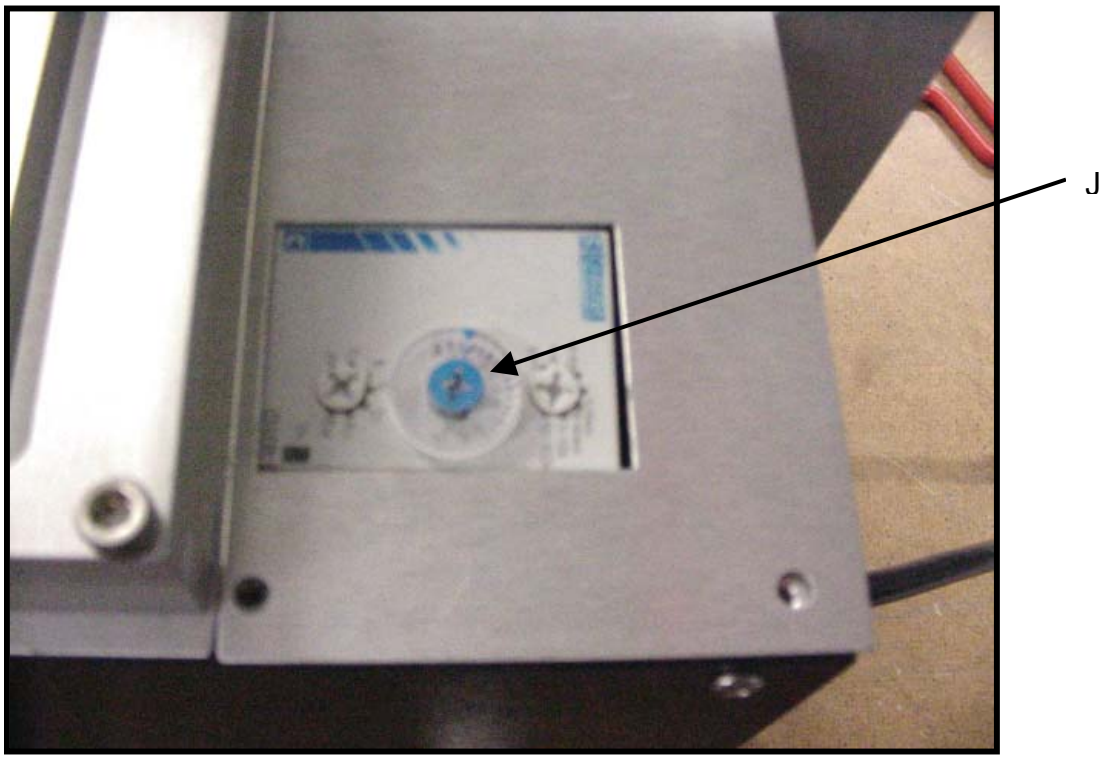


Fig 12

AIR ASSEMBLY ADJUSTMENTS

Turn you attention to the underneath of the R-310. These two valves on the air regulator control the speed at which the carriage rises to label the product and falls back to rest. Each can be controlled individually as shown below.

Turn valve 'A' **clockwise** to **slow** the speed that the carriage rises.
Turn valve 'A' **counterclockwise** to **increase** the speed the carriage rises.

Turn valve 'B' **clockwise** to **slow** the rate at which the carriage falls.
Turn valve 'B' **counterclockwise** to **increase** rate carriage falls.

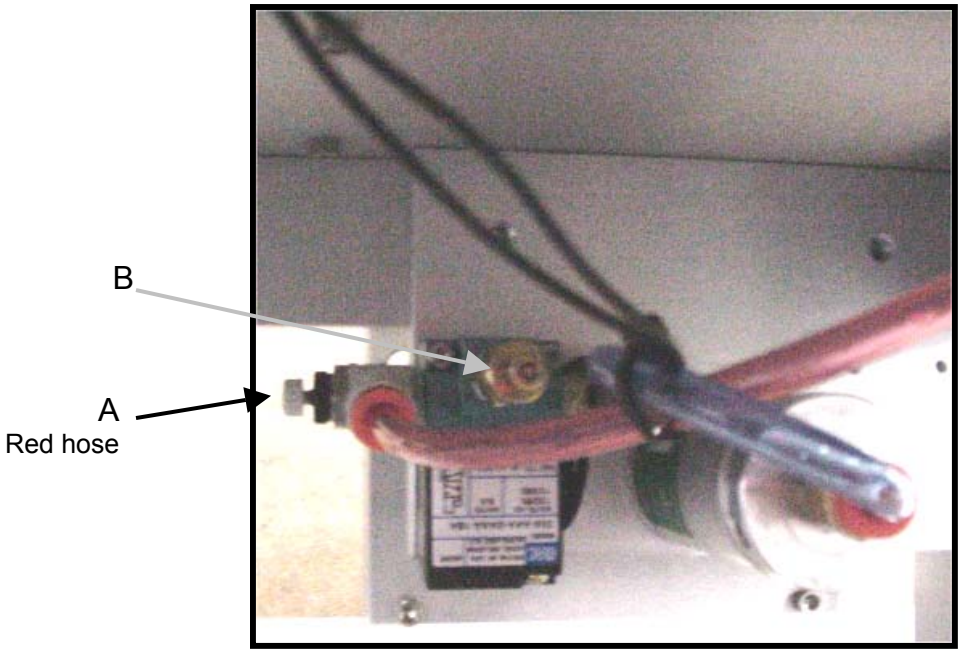


Fig 13 (underneath the R-310)

AIR REGULATOR

Turn your attention to the side where the air regulator is mounted.
The Air Regulator is used to raise or lower the air pressure to the machine. This will allow the R-310 to run connected to virtually any Clean air source depending on how much Air pressure is produced by your compressor. It is also used to stay within the recommend air pressure of the machine 20-40PSI, 5CFM.

Note: The R-310 is designed to label a variety of items from very small up to and including a Full Gallon jug. The Air regulator would also be used to increase air pressure to raise a heavy Full gallon jug. By the same token if a small vial were being labeled, not nearly as much air pressure would be needed to lift an item that weighed a few ounces or less. You want the carriage to rise smoothly and stay engage with the driver roller to insure proper labeling. Then again you don't want it to raise so fast that it bang's against the driver roller and cause damage to your product or the machine.

The Air pressure takes a few seconds to increase so don't turn the knob 'F' too much. Also a small amount of turn may increase the pressure a lot.

Turn the regulator knob 'F' slowly a ¼ turn and pause a few seconds watching the gauge as it rises. Try to label the product and then repeat as necessary. Turning the regulator a small amount then pause.

Adjust knob 'F' clockwise to increase air pressure, counterclockwise to decrease it, watching the Air pressure gauge 'E'.

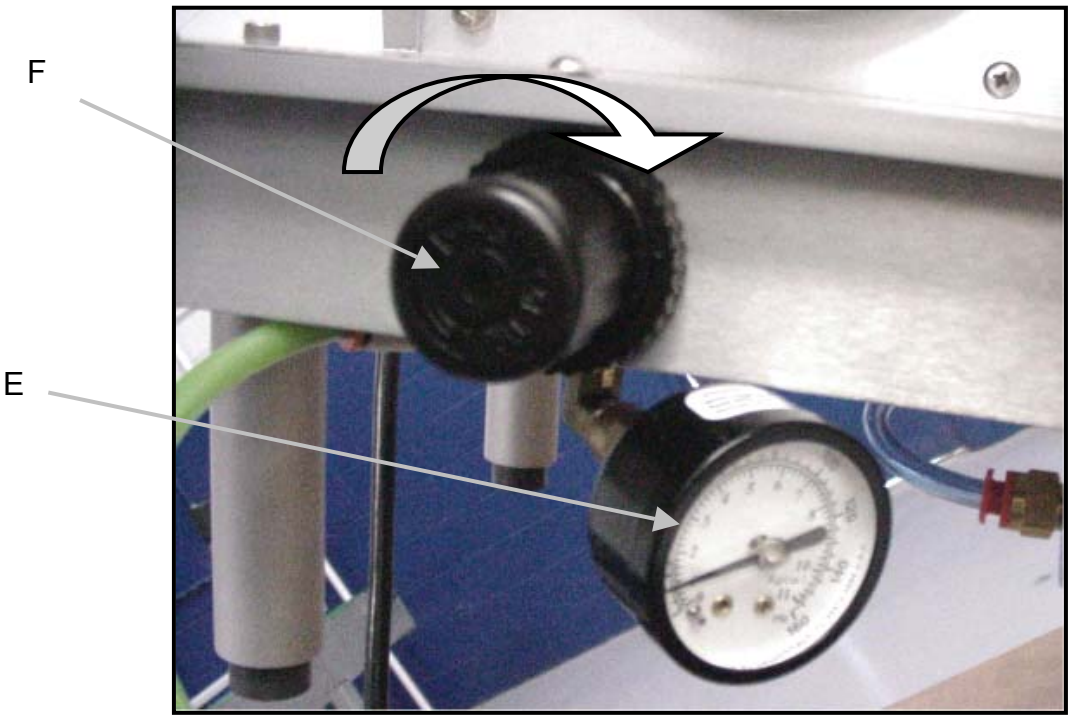


Fig 14

SECTION 4 MAINTENANCE

STARWHEEL

After continued use, the starwheel label sensor may become fouled with glue and the points could become dull enough so that it might fail to catch the leading edge of a label, thus allowing more than one label to be dispensed. It should be cleaned and sharpened as follows:

Remove the 3 screws that hold the plastic black cover. Remove the starwheel pivot assembly and clean the starwheel with mineral spirits, lighter fluid, etc., until the wheel turns freely. If the points are dull, sharpen by placing the assembly flat on a piece of crocus cloth or other very fine emery clothes or paper. (See illustration below). Gently hone the points by moving the assembly in one direction until all the points are sharp, i.e.. If you do 10 strokes on one side, do 10 strokes on the other three sides. This will keep the starwheel concentric. Lightly oil the wheel, making sure it turns freely before reinstalling. Make sure it turns freely before reinstalling.

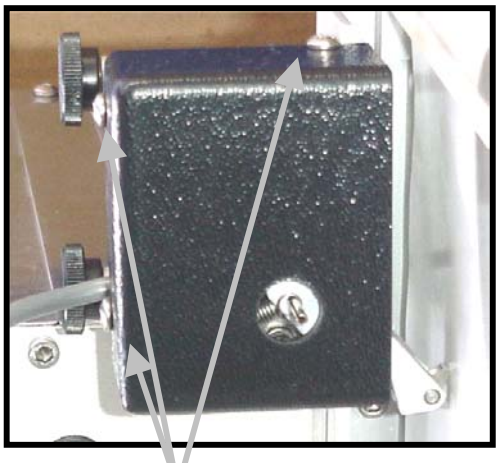


Fig 15 Remove 3 Pan head screws

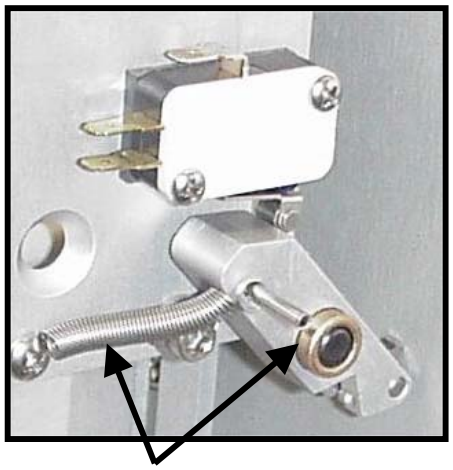


Fig 16 Remove spring and slide Star wheel assembly off.

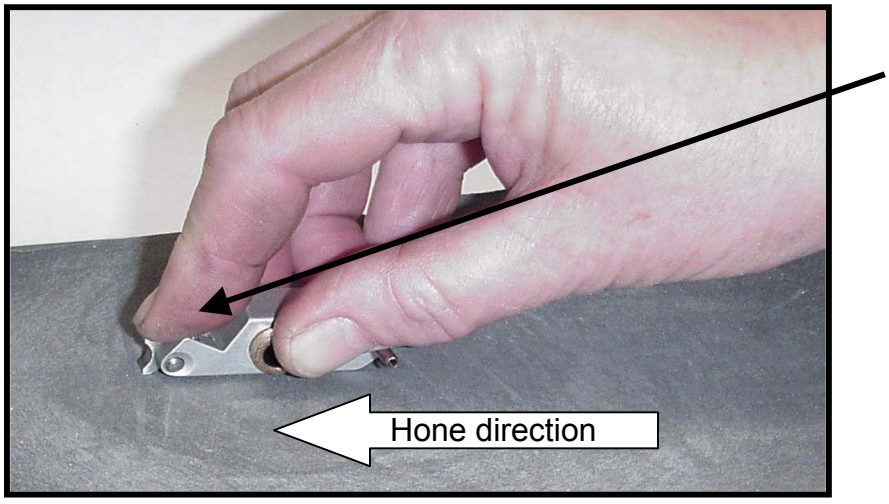


Fig 17

GENERAL MAINTENANCE

Drive rolls:
The drive rolls must be kept clean. Wash with lacquer thinner or other recommended solvents to remove gum buildup or small bits of labels adhering to rollers. **Never use razor blade or sharp instruments on rollers**. Damaged or gummy rollers will cause inconsistencies in label application. If they are damaged, replace them. Part Number "SRL-500-33-A", both rollers are the same.

Lubrication:
The only part in the applier that requires lubrication are the 2 main shafts (drive and rewind) that rotate in bushings. These bushings should be oiled once every 2 or 3 years. Remove cover to oil internal bushings as shown below in Fig 17b.

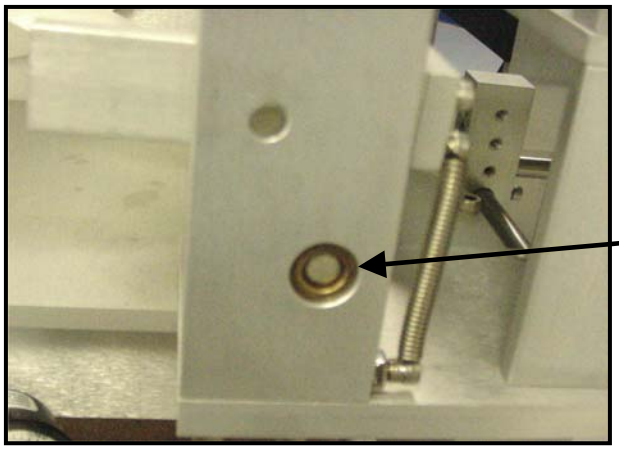


Fig 17a

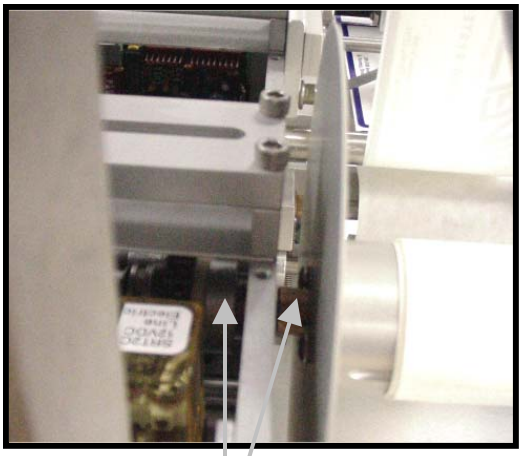


Fig 17b

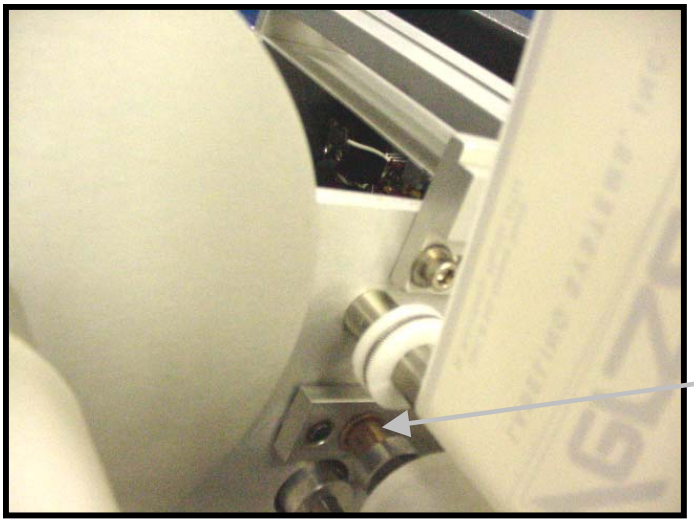


Fig 17c

TECHNICAL SUPPORT

When calling for Technical Support:
have your Model # : R310
and the Serial Number ready (located on main base plate on the same side where the Air Regulator is).

Email: fjones@universal1.com

Web Site: http://www.universal1.com

DRAWINGS AND BILL OF MATERIALS

POWER MODULE
See Drawing L15-D-02

WEBBING DIAGRAM
See Drawing 310-W-00

MAIN ASSEMBLY
See Drawing 310-I-00E

FRONT PANEL ASSEMBLY
See Drawing 310-I-20

REGULATOR ASSEMBLY
See Drawing 310-I-30

REGULATOR ASSEMBLY (CODER)
See Drawing 310-I-31

STARWHEEL ASSEMBLY
See Drawing 310-I-40E

STARWHEEL PIVOT ARM ASSY
See Drawing 310-I-41

UPPER IDLER ROLL ASSY
See Drawing 310-I-50E

STANDARD CARRIAGE ASSY
See Drawing 310-I-62

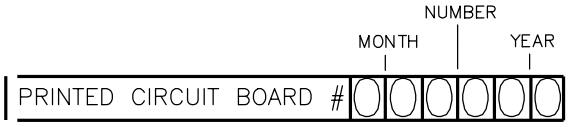
UNWIND ASSEMBLY
See Drawing UWA-13R-I-00

ELECTRICAL DIAGRAM
See Drawing 310-E-00

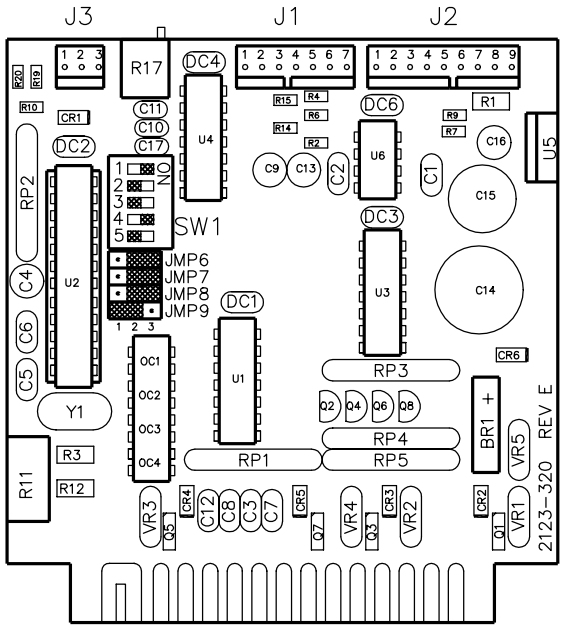
R-310 ROUND PRODUCT LABELER
RECOMMENDED SPARE PARTS

Part Number	Description
200009	Relay, DPDT 12VDC 10Amp
200109	Micro switch, label sensing
200113	Timer, Syrelec
200198	Power Module Rev. B
300050	Motor, web drive (with brake)
300051	Motor, Product Drive (no brake)
300025	Motor (R-310-J version)
300055	Fan for motor# 300050
300060	Fan for motor# 300051
L-129-S	Starwheel
L-170	Pin, starwheel
MD-729	Roller, drive / idler
SRL-500-33	Roller, product drive
200111	Transformer

POWER MODULE SETUP SHEET
PLEASE READ CAREFULLY BEFORE INSTALLING



Note! (R17) is Coder Dwell Time
turn clockwise for longer dwell time.



BOARD SHOWN IS SET FOR L–15 APPLIER

The Universal Power Module is designed to operate the L15, L20, L30, R310, MP25, L60, and SL1000 series of label machines. The L15, L20, L30, R310 and MP25 are set up the same! The L60 & SL–1000 are different,
See DEFAULT SETTINGS Below.

Coder output is adjusted by (R17) top left board and operates in all modes. The dwell time is adjustable from 0 to 0.5 seconds. The next start signal or product signal will be ignored until the coder pulse is turned off.

(NOTE) IF YOU HAVE L–60 WITH FRONT & REAR BOARD, BOARD MUST BE SET UP AS L–15.

DEFAULT SETTINGS

L–15	L–60	SL–1000
SW1	SW1	SW1
JMP6 JMP7 JMP8 JMP9	JMP6 JMP7 JMP8 JMP9	JMP6 JMP7 JMP8 JMP9
PIN NUMBERS	PIN NUMBERS	PIN NUMBERS

NOTE: THIS POSITION IS ON

If the OLD Power module is available, make sure the jumpers and dip switches are set like the OLD [failed] Power Module or according to this setup sheet.

Note! This Power Module is used for a variety of label applicators.

SWITCH #1 DELAY SELECT

SWITCH OFF – NO DELAY
SWITCH ON – START and STOP DELAYS SET BY:
DELAY CONTROLS (FRONT PANEL)
START DELAY – 0 TO 1 SEC.
STOP DELAY – 0 TO 0.1 SEC.

SWITCH #2 MACHINE MODEL SELECT

SWITCH OFF – L15 OPERATION
SWITCH ON – L60 OPERATION (SEE NOTE)
(NOTE) IF YOU HAVE L–60 WITH FRONT & REAR BOARD, BOARD MUST BE SET UP AS L–15.

SWITCH #3 CLUTCH/BRAKE DELAY SELECT

[L15] SWITCH #3, w/SWITCH #2 OFF
SWITCH OFF – 25 ms.
SWITCH ON – 0 ms.

[L60] SWITCH #3, w/SWITCH #2 ON
SWITCH OFF – BLOW ON
SWITCH ON – TAMP ON

SWITCH #4 START (PRODUCT) SWITCH

SELECTOR SWITCH WILL CHANGE SIGNAL ACTIVE FROM LEADING TO TRAILING EDGE, DEPENDING ON HOW THE SENSOR IS WIRED.

SWITCH #5 STOP (LABEL SENSE) SWITCH

SELECTOR SWITCH WILL CHANGE SIGNAL ACTIVE FROM LEADING TO TRAILING EDGE, DEPENDING ON HOW THE SENSOR IS WIRED.

JUMPERS, HARDWARE ACTION SELECT

JMP #6 & #7 START (PRODUCT) SWITCH TYPE SELECT

POSITION 1 & 2 – SPDT OR COMPLIMENT TYPE
POSITION 2 & 3 – SINGLE POLE INPUT (NPN or PNP)

JMP #8 SINGLE POLE START SWITCH POLARITY

POSITION 1 & 2 – SWITCHES TO POSITIVE 5 TO 24 VOLTS D.C. (PNP)
POSITION 2 & 3 – SWITCHES TO GROUND (NPN)

JMP #9 STOP SIGNAL SELECT

(STARWHEEL)
POSITION 1 & 2 – EXTERNAL SPDT SWITCH

(PEELER PLATE PHOTO CELLS)
POSITION 2 & 3 – ON BOARD PHOTOELECTRIC CIRCUIT

DESCRIPTION	UNIVERSAL POWER MODULE PART# 200198				PART NUMBER L15-D-02
PRODUCT	LABEL APPLICATORS				
DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:	
11-26-1997	G.T.H.	E	G.T.H. 10-25-01	L15-D-02	

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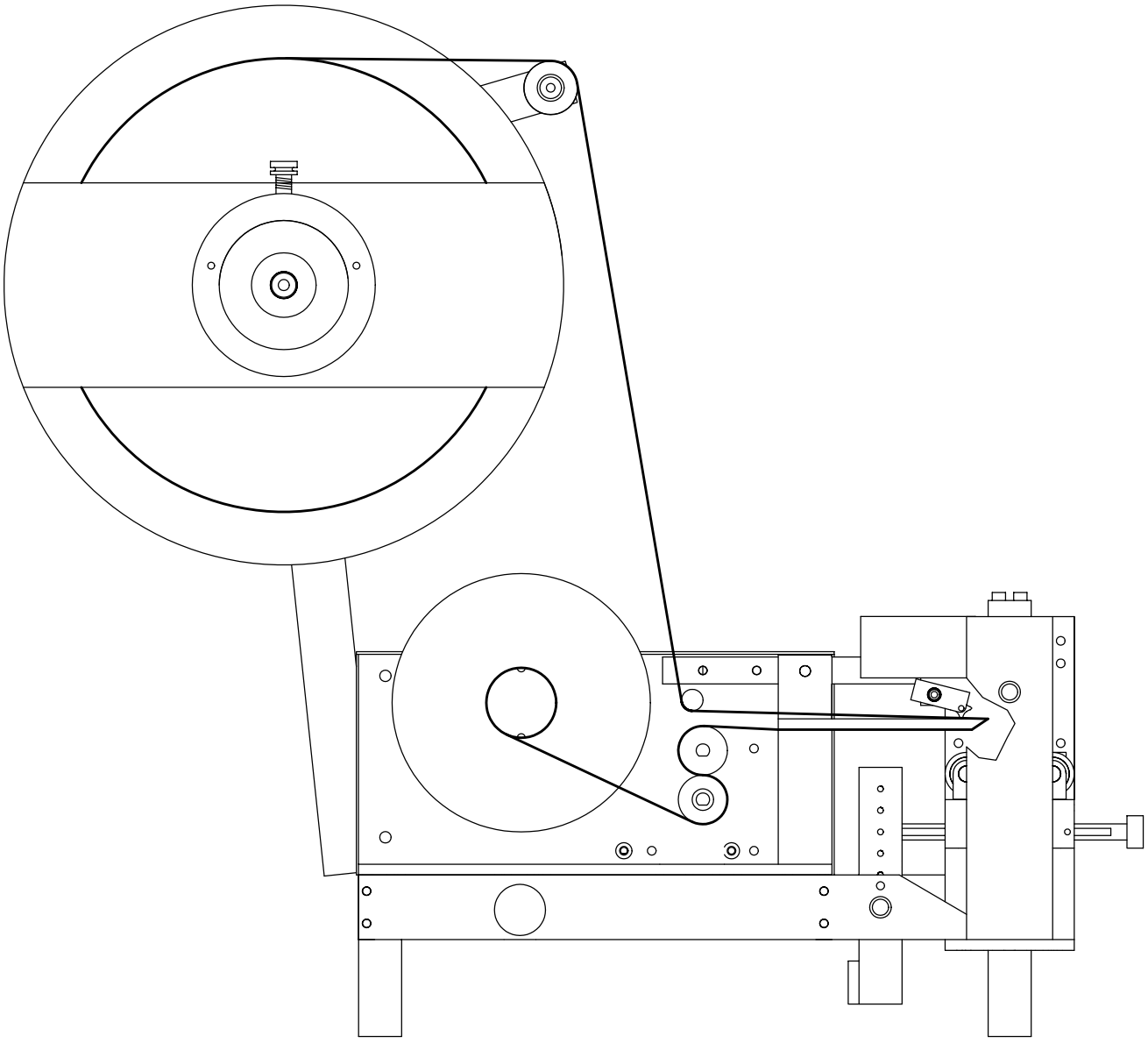

DESCRIPTION: WEBBING DIAGRAM

PRODUCT: R-310 SEMI AUTOMATIC ROUND PRODUCT LABELER

DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:
5-8-1998	G.T.H.	X	X	310-W-00

PART NUMBER 310-W-00

universal™ LABELING SYSTEMS INC.
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ST. PETERSBURG, FLORIDA 33711
TEL. (727) 327-2123

Bill of Material

MAIN ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	SRL-500-42	BRACKET, OUTER BEARING	1
02	L-144-M	BLOCK, 3/8" BEARING	1
03	400016	BEARING, 3/8" SEALED	1
04	SC-006	COLLAR, SET .376 X .62 X .250	4
05**	SRL-500-3306000	ROLLER, PROD. DRIVE 6" LONG	1
06	SRL-500-04-B	SHAFT, 3/8 X 15.5"	1
07	SRL-500-03	SHAFT, PIVOT	1
08*	310-I-62	ASS'Y, STANDARD CARRIAGE	1
09	SRL-500-43	BRACKET, MACHINE SUPPORT	1
10	SRL-500-40	PLATE, BASE	1
11	SRL-500-23	BAR, LOWER TIE	2
13	430380	BUSHING,S 500 X 375 X 375	4
14	SRL-500-41	BRACKET, MOTOR MOUNT	1
15	SRL-500-60	BAR,OUTSIDE TIE	1
16*	310-I-10	ASS'Y, AIR CYLINDER MNTG.	1
17*	310-I-30	ASS'Y, AIR REGULATOR	1
18	SRL-500-61	BAR, INSIDE TIE	1
19	SRL-500-08	COLLAR, PRODUCT DRIVE SHAFT	1
20	300051	MOTOR, CCW WO/BRAKE	1
21	300060	FAN, #300051 MOTOR	1
22	SRL-500-29	COVER, MOTOR	1
23	SRL-500-57A	BLOCK, WEB DRAG MOUNTING	1
24	MD-706-W	BAR, STRIPPER PLATE SUPPORT	1
25	MD-744-W	PLATE, EXTENSION	1
26	430385	BUSHING,S 500 X 375 X 500	1
27	MP-2500-8	BLOCK, WEB DRAG	2
28	MP-2500-9	PLATE, WEB DRAG PRESSURE	2
29	SRL-500-57-1W	SHAFT, WEB DRAG	1
31	MD-730-1W	SHAFT, BOTTOM DRIVE ROLL	1
32*	310-I-40E	ASS'Y, STARWHEEL (R-310)	1
33	SRL-500-3303875	ROLLER, 3-7/8" PRODUCT DRIVE	1
34	SRL-500-31-A	PLATE, ADJUSTABLE PEELER	1
36	MD-731	STAND-OFF, MOTOR	3
37	MD-746-2	SHAFT,TENSION	1
38*	310-I-20	ASS'Y, FRONT PANEL	1
39	SRL-500-44	SUPPORT,TOP	1
40	MD-700-1	PLATE, BASE	1
41	200111	TRANSFORMER, 110VAC TO 15VAC	1
42	200021	STRIP, 8 TERMINAL EURO 40.208	1
43	MD-724	SUPPORT, FRONT COVER	1
44	MD-723	SUPPORT, TOP COVER	1
45	MD-724-1	SUPPORT, REAR COVER	1
46	JL-200-37-5	COLLAR, FOR SLIP CLUTCH	1
47	MD-728-1	ASS'Y, DRIVE SPROCKET	1
48	410000-13.25	ASSY. CHAIN,#25 LINK X 13-1/4"	1
49	MD-746-1	SPROCKET, TENSION	1
50	JL-200-42	SPROCKET, REWIND CLUTCH	1
51	300050	MOTOR, CW W/BRAKE	1
52	300055	FAN, #300050 MOTOR	1
54	SRL-500-59-1	LEG, STAND-OFF 4"	2
55	SRL-500-58	FOOT, EQUIPMENT (PACK OF 2)>>	2
56	MD-708-W	BAR, OUTBOARD SUPPORT	1
57*	310-I-50E	ASS'Y, UPPER IDLER ROLL	1
58	PS-3018	PIN, 1/4"OD X 5/8" DOWEL	2
59	850008T	THUMBSCREW, 8-32 X 1/2"	2

Bill of Material

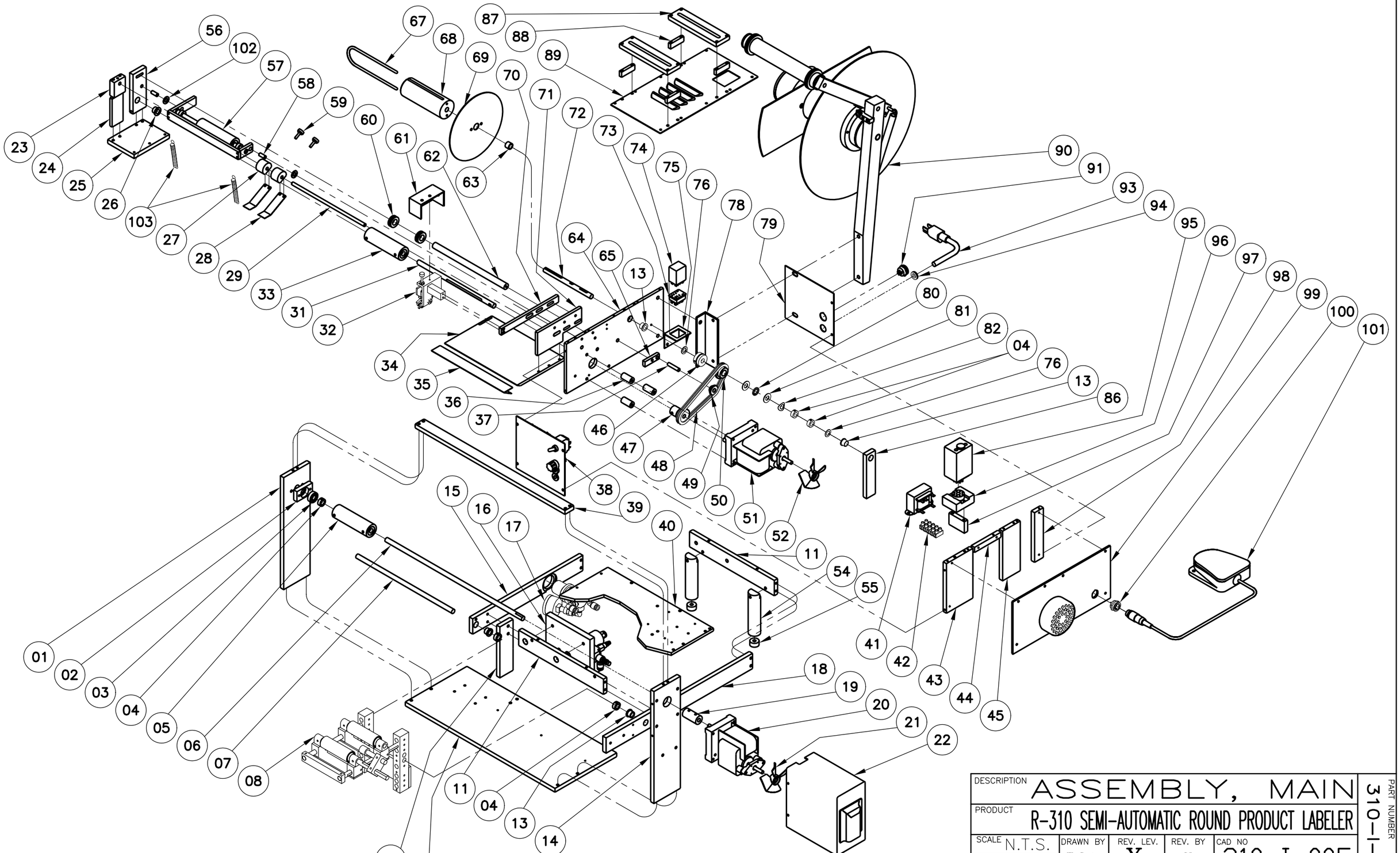
MAIN ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
60	700025	GUIDE, 1/2" SPLIT NYLON WEB>>	2
61	MD-717	COVER, STARWHEEL (BLACK)	1
62	MD-743-W	SHAFT, UPPER IDLER	1
63	430240	BUSHING, 500 X 375 X 375	1
64	MD-700-2	PLATE, VERTICAL	1
65	MD-746-3	BLOCK, PIVOT	1
67	L-128-C	CLIP, (4-1/2 WEB) RETENTION	1
68	L-128-D	SPOOL, (4-1/2 WEB) REWIND	1
69	L-148-M	PLATE, REWIND BACKING	1
70	SRL-500-32	BRACKET, STARWHEEL SUPPORT	1
71	SRL-500-81	PLATE, PEELER ADJUSTING	1
72	SRL-500-71	SHAFT, REWIND	1
73	200011	SOCKET, 10 AMP RELAY	1
74	200009	RELAY, 12VDC 10AMP DPDT	1
75	MD-722	BRACKET, RELAY	1
76	L-172-03	WASHER, UHMW 062 X 380 X 625	2
78	MD-732	BRACKET, UNWIND MOUNTING	1
79	MD-720	COVER, REAR	1
80	400009	BEARING, 3/8" THRUST	1
81	400010	RETAINER, 3/8" HARDENED BRNG.	2
82	400054	WASHER, 3/8" WAVE SPRING	1
86	MD-726-1	SUPPORT, REWIND SPINDLE	1
87	MD-734	BAR, HORIZONTAL MOUNTING	2
88	MD-733	SPACER, MOUNTING BAR	4
89	MD-719-1	COVER, TOP FOR R-310	1
90*	UWA-13R-I-00	ASS'Y, R. H. 13" UNWIND	1
91	200017	AMPHENOL, 5 PIN (FEMALE)	1
93	200036	CORD, 18/3 8FT. SJT POWER	1
94	MD-720	COVER, REAR	1
95	200113	TIMER, (CROUZET)	1
96	200114	SOCKET, SYRELEC TIMER MNTG.	1
97	MD-747	BLOCK, SYRELAC TIMER SUPPORT	1
98	MD-725	SUPPORT, COVER	1
99	MD-718-1	COVER, VENTED SIDE	1
100	200013	AMPHENOL, 3 PIN (FEMALE)	1
101	200090B	ASSEMBLY, R-310 FOOT SWITCH	1
102	L-172-09	WASHER, UHMW 032 X 257 X 500	2
103	420200	SPRING, EXTENSION SS	2

***SEE DRAWING**

**** SRL-500-3306000 IS A STANDARD 6" ROLLER**
FOR CUSTOM LENGTH CHANGE LAST 5 DIGITS
I.E. 4-3/8 = 04375



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REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY

DESCRIPTION: ASSEMBLY, MAIN

PRODUCT: R-310 SEMI-AUTOMATIC ROUND PRODUCT LABELER

SCALE	DRAWN BY	REV. LEV.	REV. BY	CAD NO
N.T.S.	T.J.A.	X	X	310-I-00E

DATE 02-16-2001

PART NUMBER 310-I-00E

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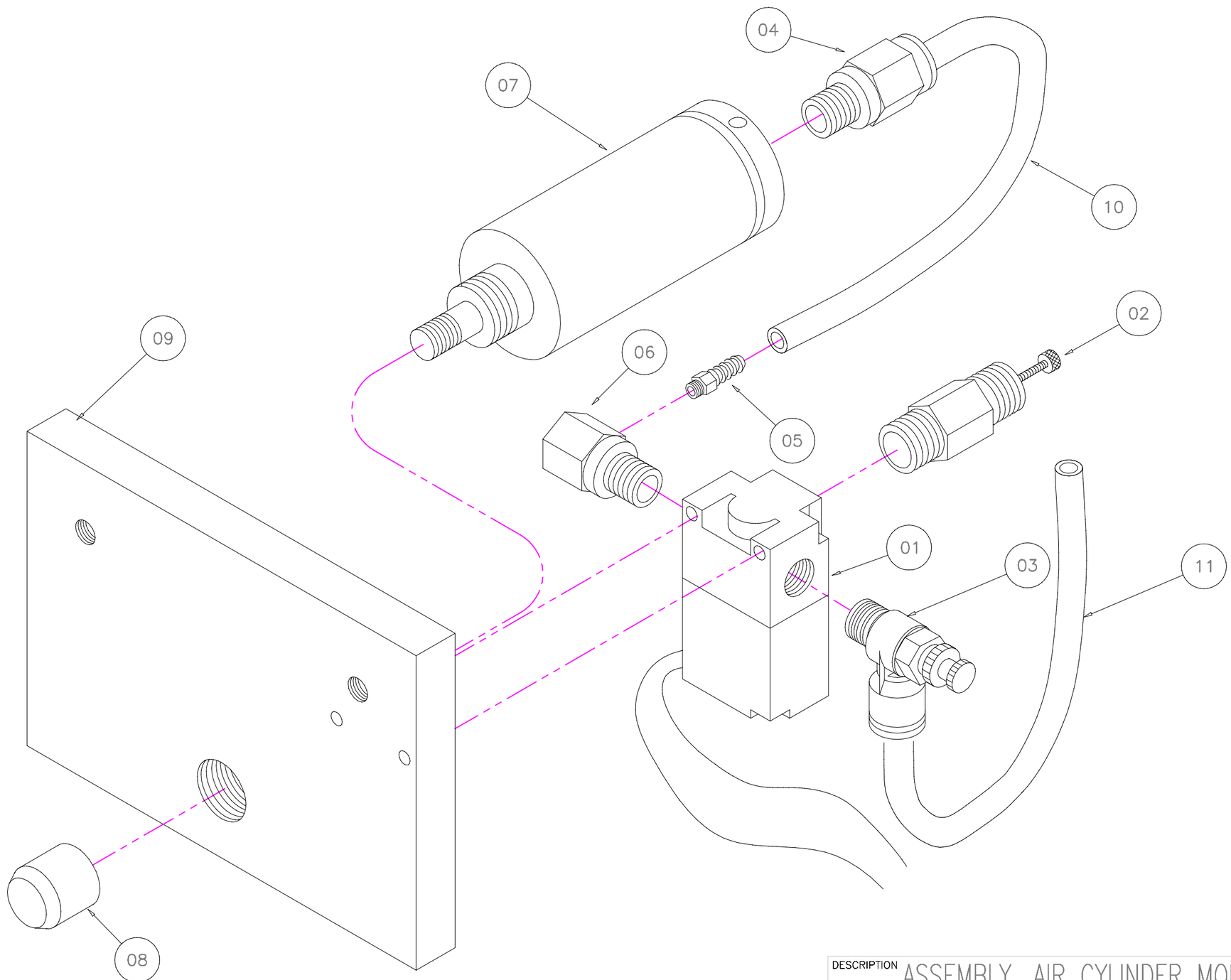
Bill of Material

AIR CYLINDER MOUNTING ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	100099	VALVE, 120VAC 3WY MAC AIR	1
02	100108	FTNG, MINI NEEDLE VALVE	1
03	100109	VALVE, METER-IN 1/4" X 1/8NPT	1
04	100211	FTNG, 1/8 TO 1/4 STRT CONN.	1
05	100224	FTNG, 10-32M TO 1/4 BARB	1
06	100226	FTNG, 1/8M TO 10-32F REDUCER	1
07	100303	CYLINDER, 1" SPRING RETURN AIR	1
08	SRL-500-12A	GUARD, AIR CYLINDER	1
09	SRL-500-19	PLATE, AIR CYLINDER M0UNTING	1
10	100430-9.125	AIRLINE, 1/4" X 9-1/8" BLUE	1
11	100425-7.00	AIRLINE, 1/4" X 7" RED	1



DESCRIPTION	ASSEMBLY, AIR CYLINDER MOUNTING					PART NUMBER 310-I-10
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR					
SCALE N.T.S.	DRAWN BY J.L.	REV. LEV. X	REV. BY X	CAD NO 310-I-10		
DATE 05/14/1998						

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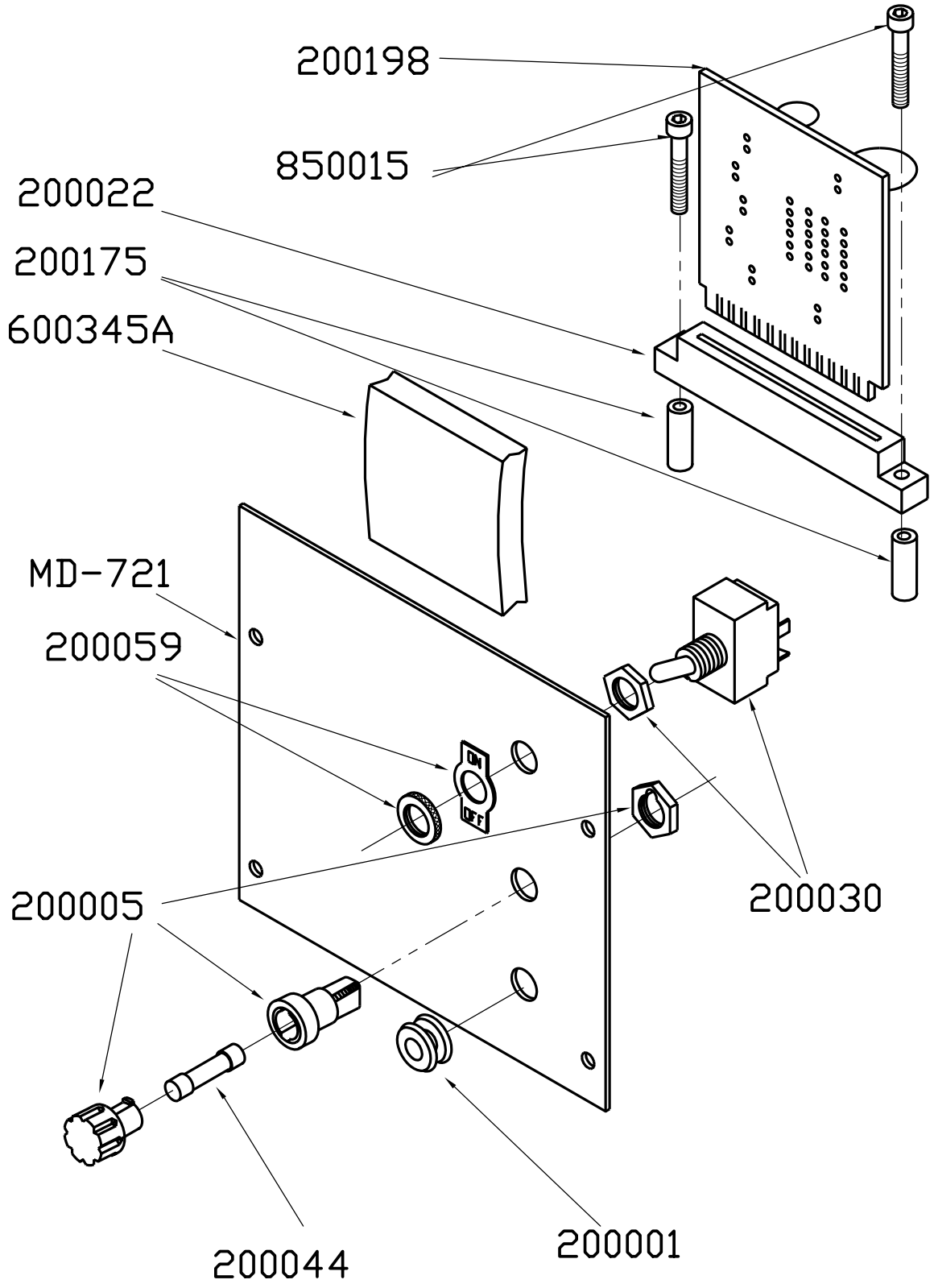
Bill of Material

FRONT PANEL ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	200198	MODULE, POWER	1
02	850015	SCREW, 6-32 X 1-1/4" L SHCS	2
04	200022	CONNECTOR, 15 PIN EDGE	1
05	200175	SPACER, #6 X .75 NYLON	2
06	600345A	RUBBER, CIRCUIT CARD BACKING	1
07	MD-721	COVER, FRONT	1
08	200059	PLATE, ON/OFF SWITCH	1
09	200005	HOLDER, PANEL MOUNT FUSE	1
10	200044	FUSE, AGC 5 A	1
10 *	200045	FUSE, AGC 7 A	1
11	200001	GROMMET, 1/16" X 1/4"	1
12	200030	SWITCH, DPST TOGGLE>>>>	1

*** USED WHEN A CODER IS INSTALLED**



DESCRIPTION	ASSEMBLY, FRONT PANEL				PART NUMBER 310-I-20
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR				
DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:	
05/20/1998	D.B.P.	X	G.T.H.	310-I-20	

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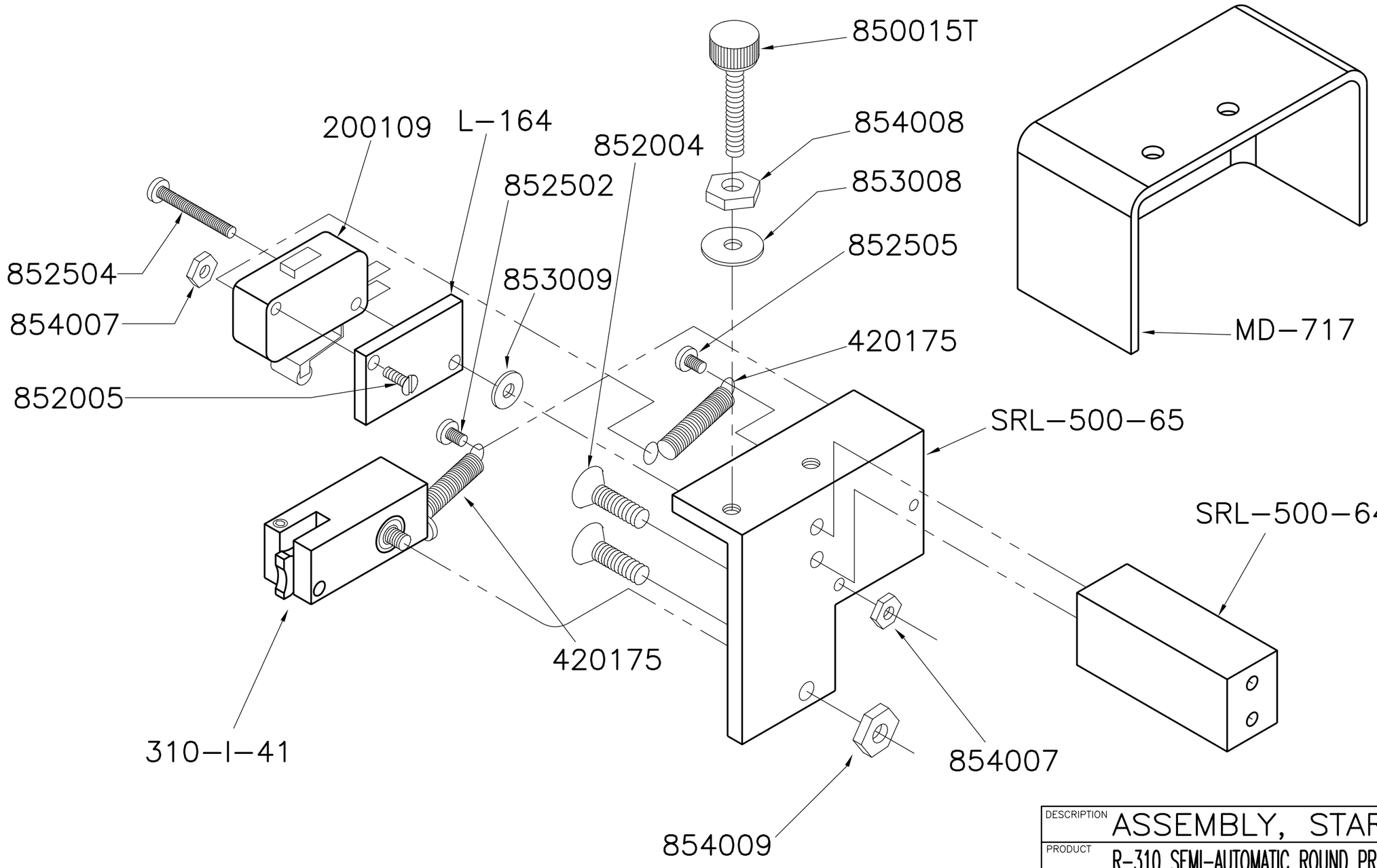

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REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY

DESCRIPTION: ASSEMBLY, STARWHEEL

PRODUCT: R-310 SEMI-AUTOMATIC ROUND PRODUCT LABELER

SCALE	DRAWN BY	REV. LEV.	REV. BY	CAD NO
N.T.S.	J.R.L.	A	T.J.A.	310-I-40E
DATE 02-20-2001				

PART NUMBER 310-I-40E

universal™ LABELING SYSTEMS INC.
3501 8TH AVENUE SOUTH
ST. PETERSBURG, FLORIDA 33711
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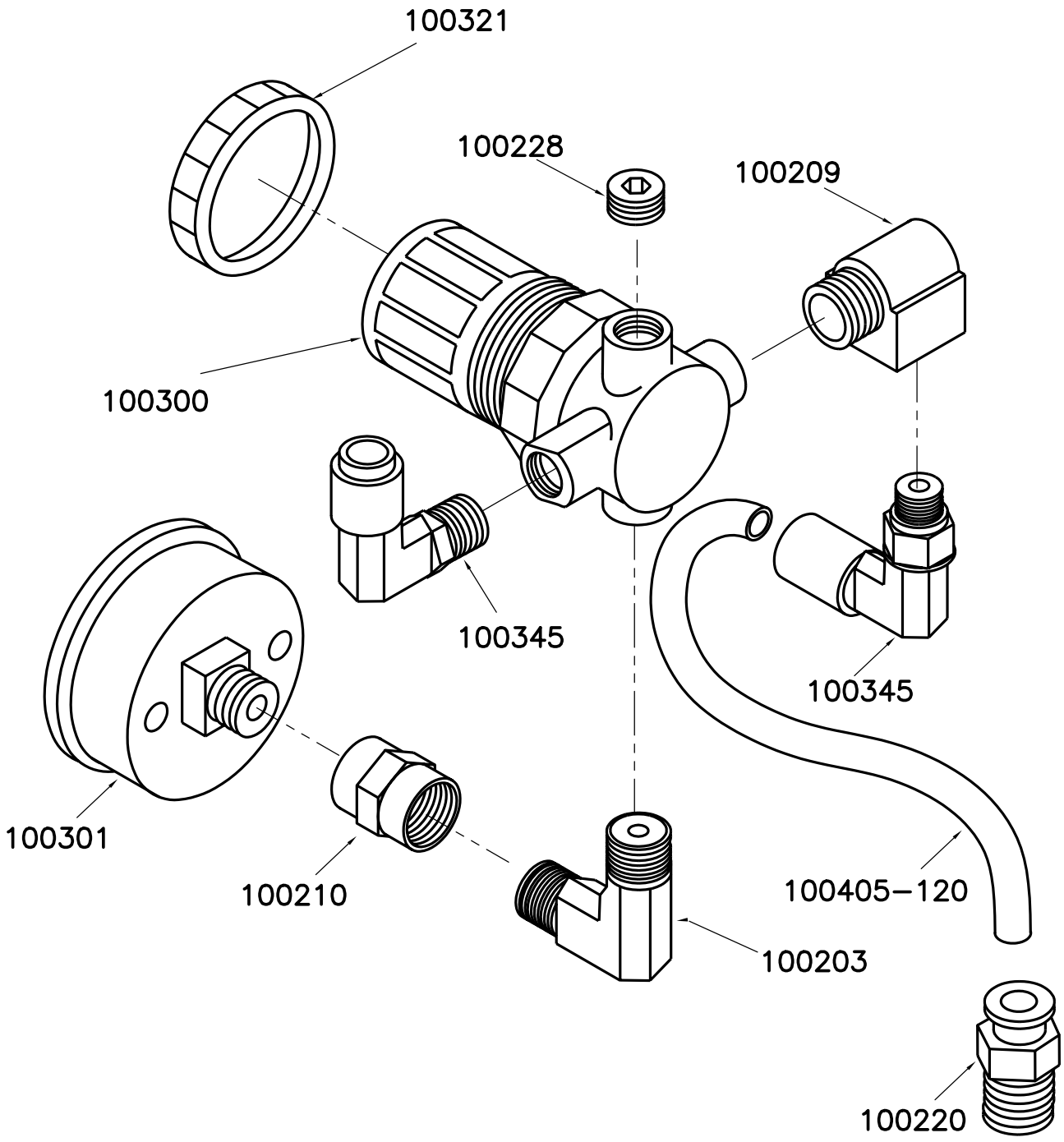
Bill of Material

REGULATOR ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	100300	REGULATOR, AIR	1
02	100209	FTNG, 1/8 90 STREET ELL	1
03	100345	FTNG, SWVL EL 1/8 X 1/4"	2
04	100321	NUT, PANEL MOUNT AIR REGULATOR	1
05	100301	GAUGE, 1.5 DIAMETER AIR	1
06	100210	FTNG, 1/8 COUPLING	1
07	100203	FTNG, 1/8M ELBOW	1
08	100228	FTNG, 1/8 SOCKET PLUG	1
09	100405-120	AIRLINE, 1/4" X 10' WHITE	1
10	100220	FTNG, 1/4M - 1/4 TUBE	1



DESCRIPTION	ASSEMBLY, REGULATOR				PART NUMBER 310-I-30
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR				
DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:	
3-26-1999	G.T.H.	X	X	310-I-30	

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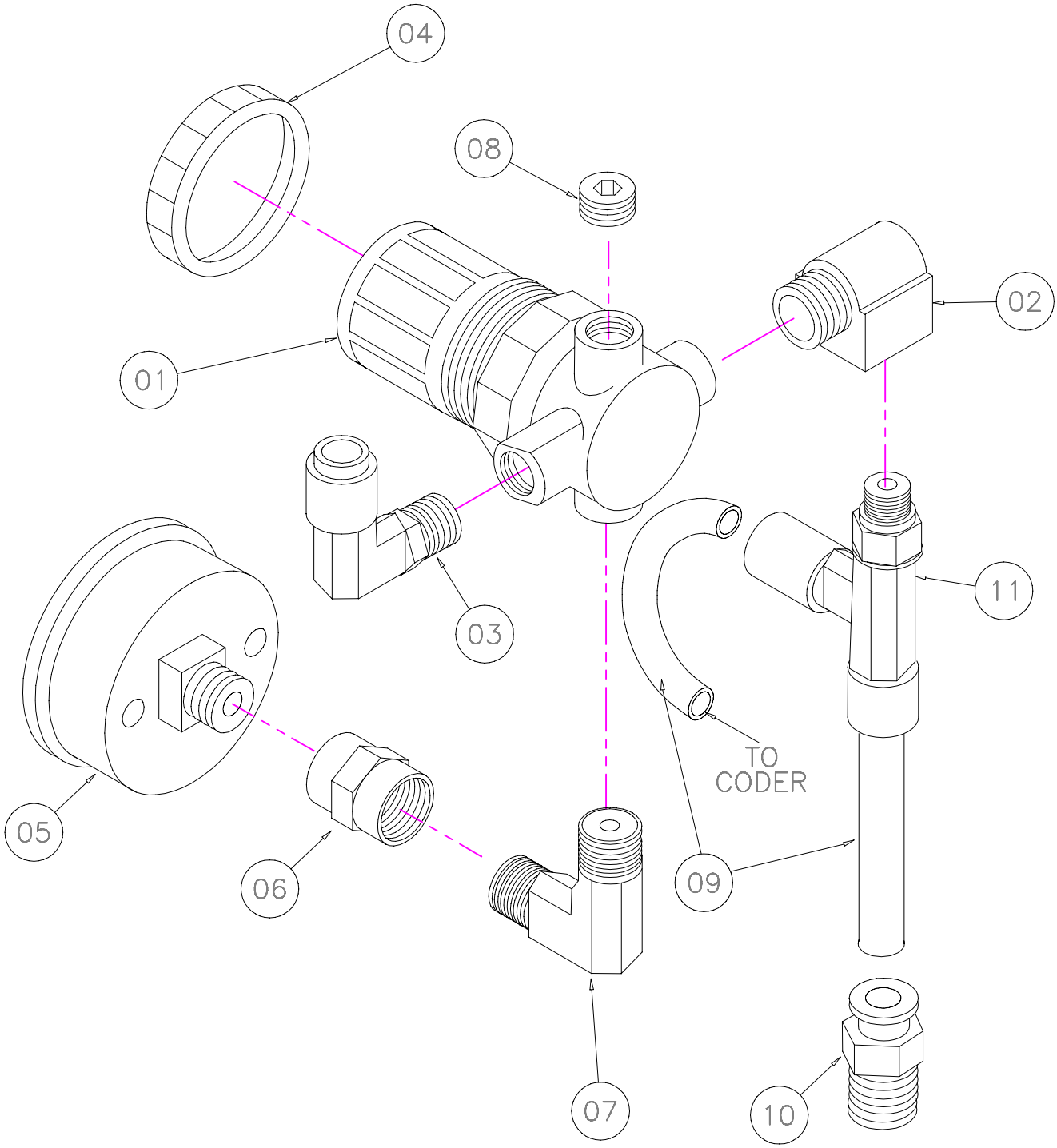
Bill of Material

REGULATOR ASSEMBLY W/CODER

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	100300	REGULATOR, AIR	1
02	100209	FTNG, 1/8 90 STREET ELL	1
03	100345	FTNG, SWVL EL 1/8 X 1/4"	2
04	100321	NUT, PANEL MOUNT AIR REGULATOR	1
05	100301	GAUGE, 1.5 DIAMETER AIR	1
06	100210	FTNG, 1/8 COUPLING	1
07	100203	FTNG, 1/8M ELBOW	1
08	100228	FTNG, 1/8 SOCKET PLUG	1
09	100405-120	AIRLINE, 1/4" X 10' WHITE	1
10	100220	FTNG, 1/4M - 1/4 TUBE	1
11	100232	FTNG, 1/8M - FEM SWVL TEE	1



DESCRIPTION	ASSEMBLY, REGULATOR (CODER)				
PRODUCT	R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR				
DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:	
3-26-1999	G.T.H.	X	X	310-I-31	

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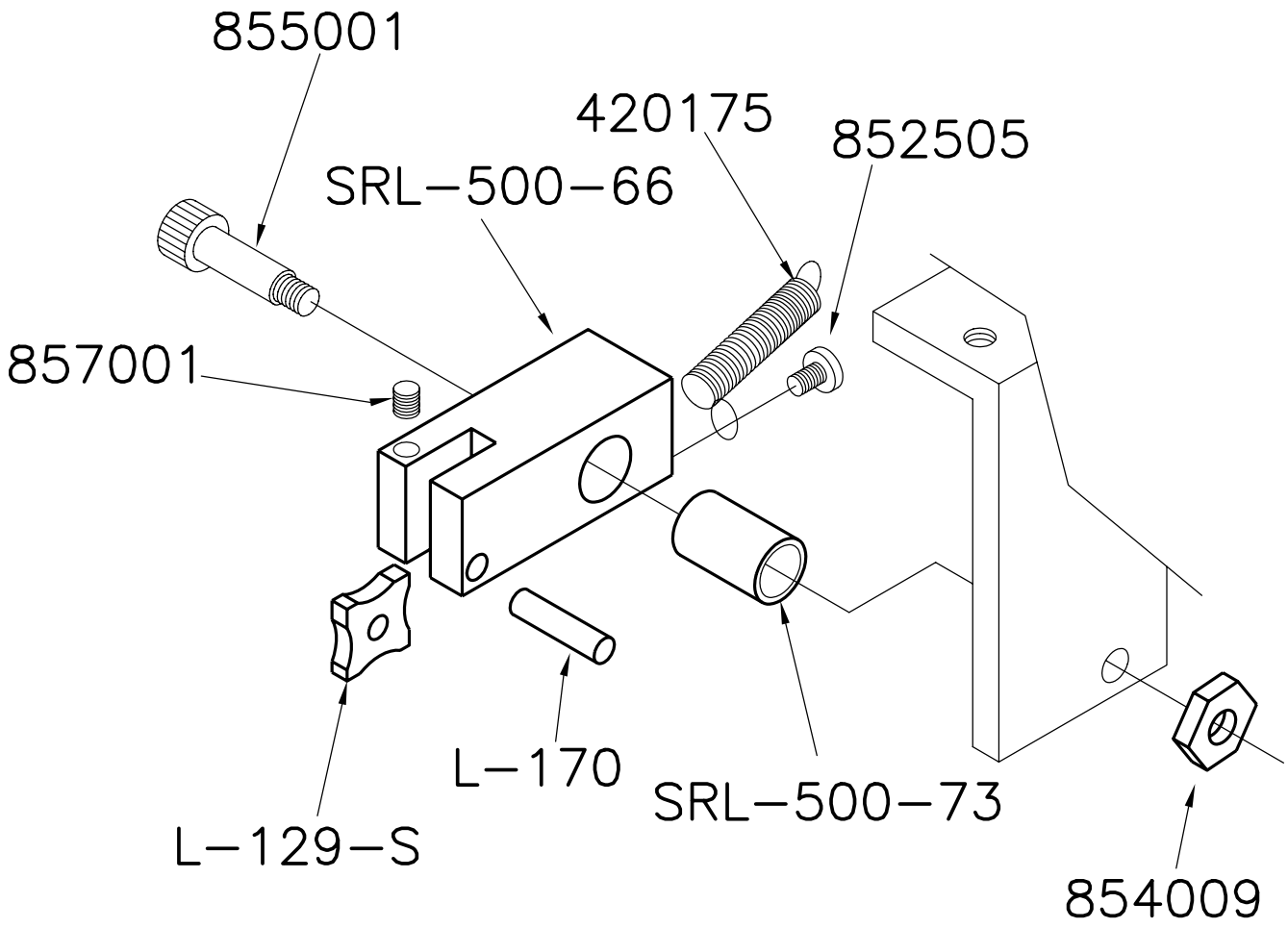
PART NUMBER 310-I-31



DESCRIPTION	ASSEMBLY, STARWHEEL PIVOT ARM				PART NUMBER 310-I-41
PRODUCT	D-105, R-310, & R-360 LABEL APPLICATORS				
DATE	DRAWN BY	REV. LEV.	REV. BY	CAD FILE:	
07/22/1998	DBP	X	X	310-I-41	

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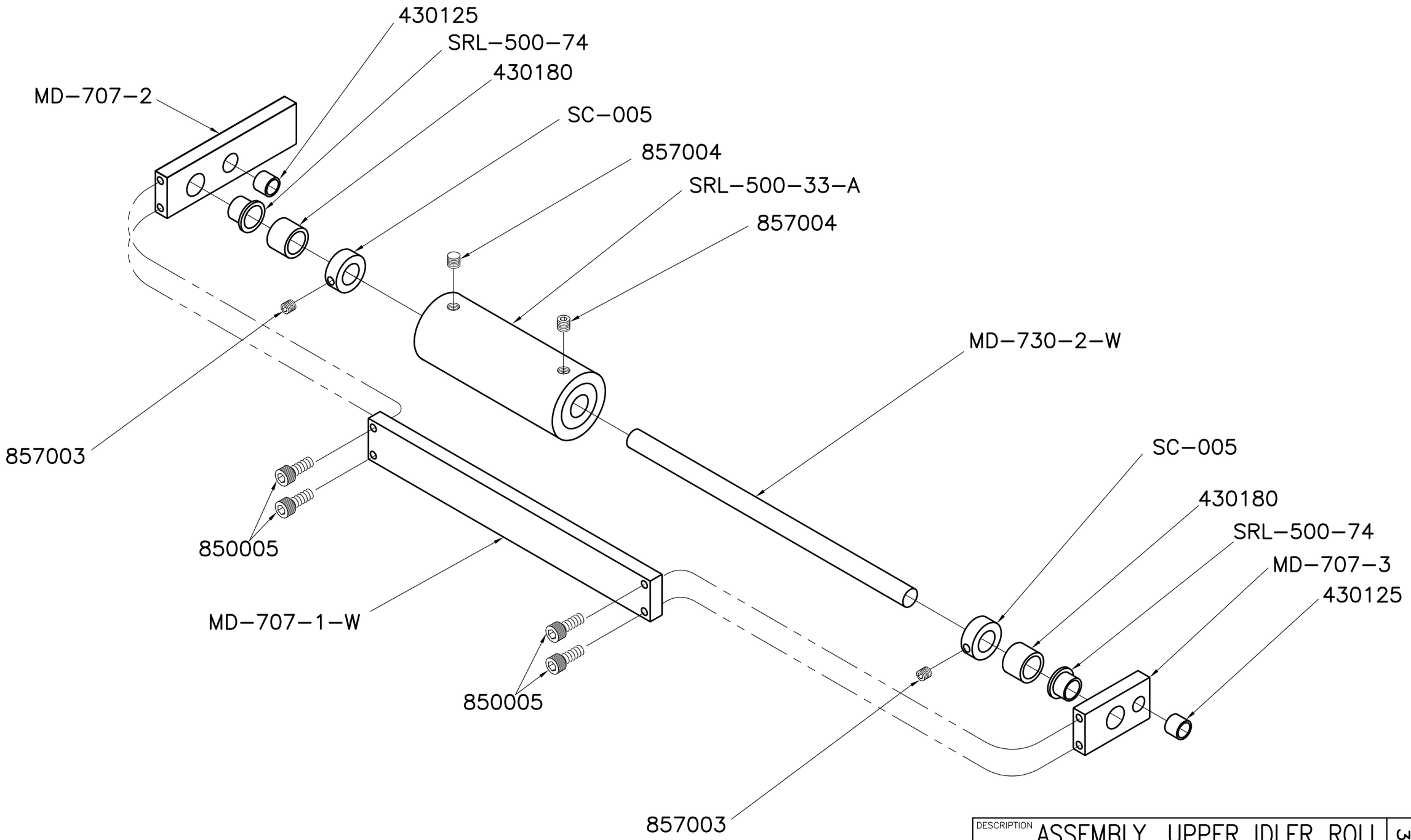

REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY
–	——	——	——	——	

DESCRIPTION: ASSEMBLY, UPPER IDLER ROLL

PRODUCT: R-310 SEMI-AUTOMATIC ROUND PRODUCT LABELER

SCALE	DRAWN BY	REV. LEV.	REV. BY	CAD NO
N.T.S.	T.J.A.	X	X	310-I-50E
DATE 02-20-2001				

PART NUMBER: 310-I-50E

universal™ LABELING SYSTEMS INC.
3501 8TH AVENUE SOUTH
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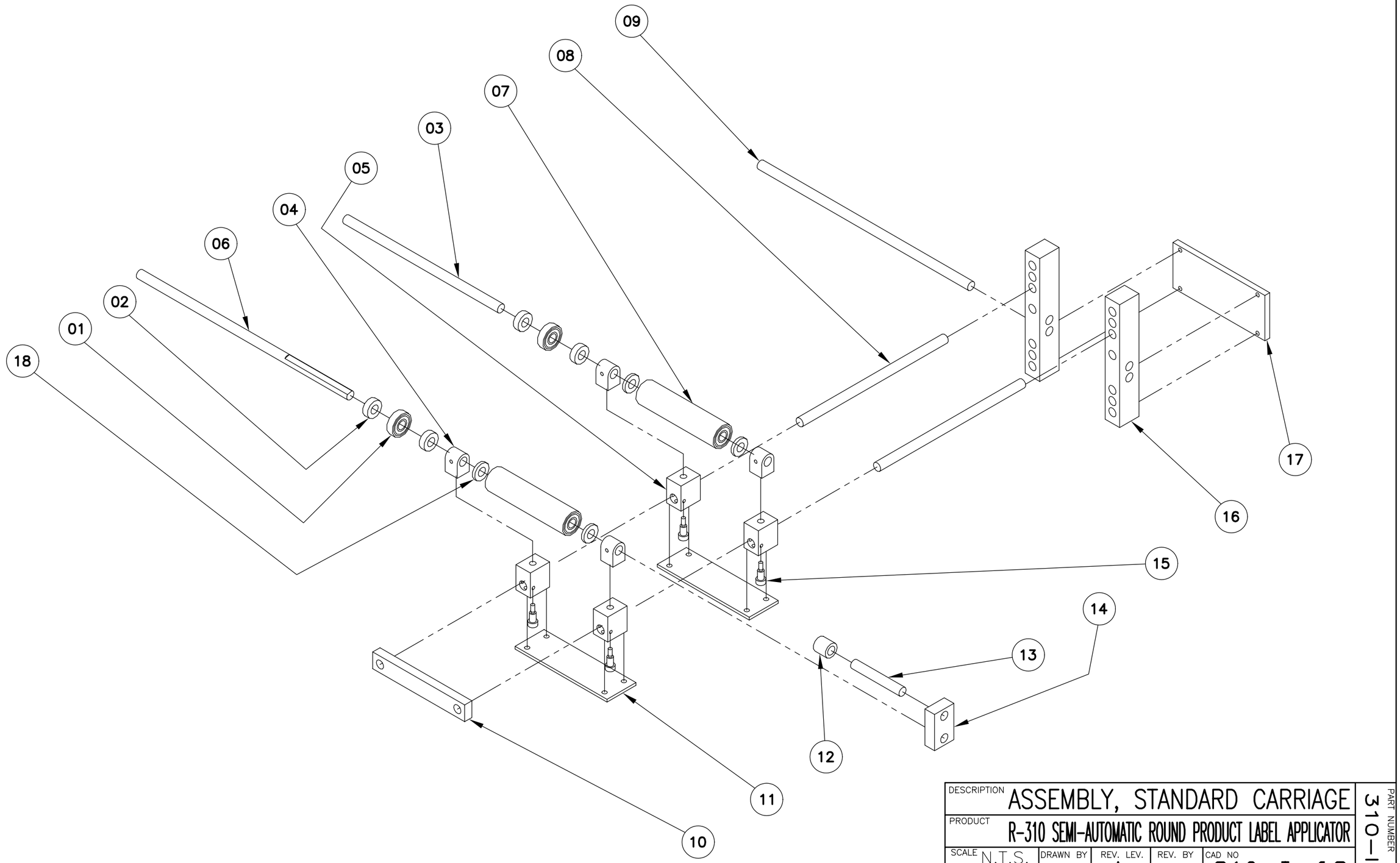
Bill of Material

STANDARD CARRIAGE ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	SRL-500-62A	ASS'Y, IDLER ROLLER	2
02	SC-006	COLLAR, SET .376 X .62 X .250	4
03	SRL-500-05-1	SHAFT, LOWER BACK IDLER	1
04	SRL-500-14-D	COUPLER, IDLER SHAFT	4
05	SRL-500-14-E	CARRIER, LOWER IDLER ROLL	4
06	SRL-500-06-1	SHAFT, LOWER FRONT IDLER	1
07	L-143-D	ROLLER, 3" LOWER IDLER	2
08	SRL-500-02	SHAFT, CARRIER SIDE	2
09	SRL-500-03	SHAFT, PIVOT	1
10	SRL-500-09	BRACKET, LOWER CARRIAGE	1
11	SRL-500-15-1	PLATE, LOWER IDLER ROLL	2
12	SRL-500-11	BOTTLE STOP, PLASTIC	1
13	SRL-500-52	SHAFT, BOTTLE STOP	1
14	SRL-500-10	BRACKET, BOTTLE STOP	1
15	200600-A	BOLT, COUPLER MOUNTING	4
16	SRL-500-45	ARM, ACTUATOR	2
17	SRL-500-46	BAR, ACTUATOR ARM TIE	1
18	L-172-08	WASHER, UHMW 187 X 375 X 625	4



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REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY

DESCRIPTION: ASSEMBLY, STANDARD CARRIAGE

PRODUCT: R-310 SEMI-AUTOMATIC ROUND PRODUCT LABEL APPLICATOR

SCALE	DRAWN BY	REV. LEV.	REV. BY	CAD NO
N.T.S.	G.T.H.	A	G.T.H.	310-I-62
DATE 11-05-1998				

PART NUMBER 310-I-62

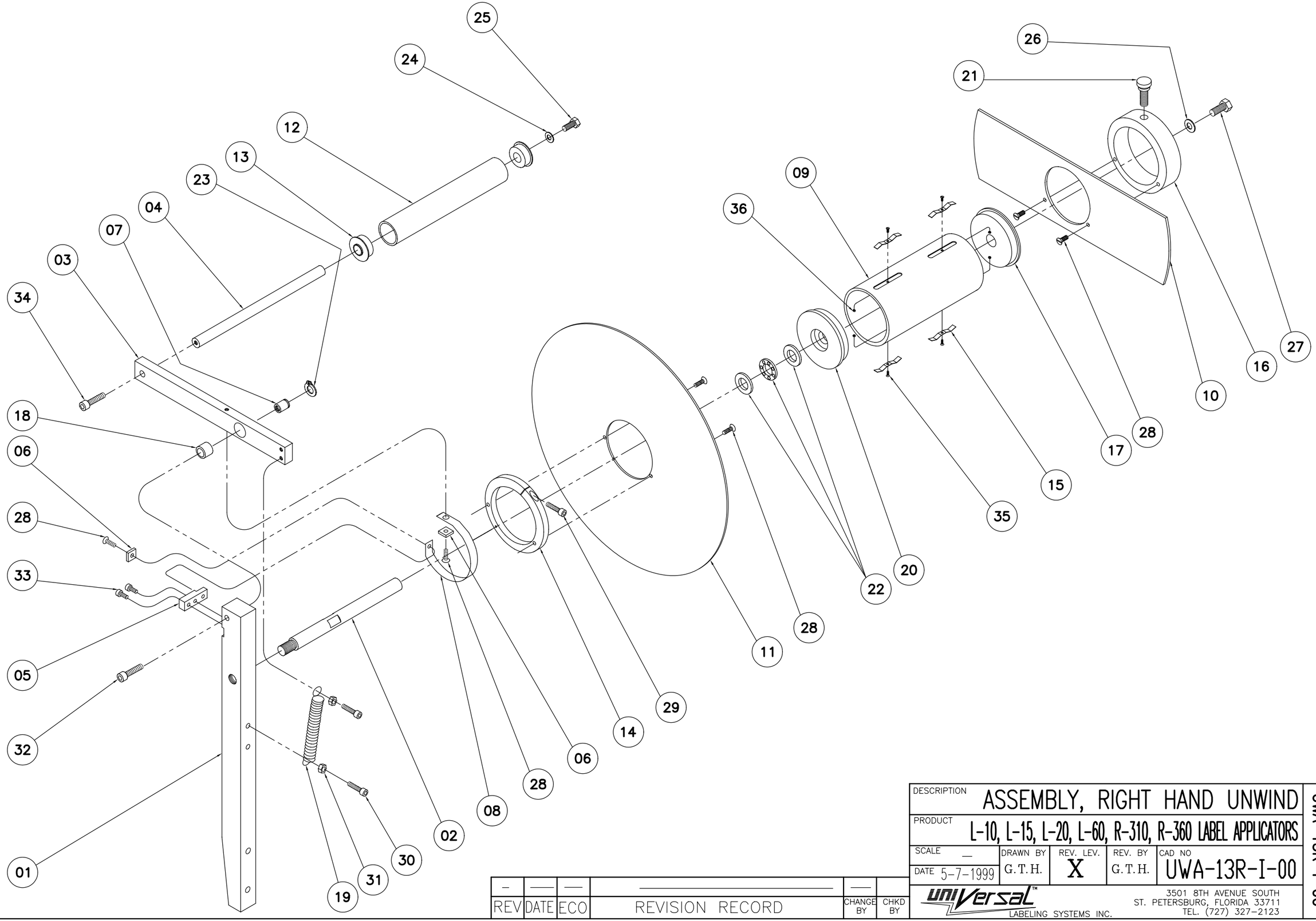
universal™ LABELING SYSTEMS INC.
3501 8TH AVENUE SOUTH
ST. PETERSBURG, FLORIDA 33711
TEL. (727) 327-2123

Bill of Material

R. H. 13" UNWIND ASSEMBLY

R310

ITEM NUM:	PART NUMBER:	PART DESCRIPTION:	QTY:
01	UND-001	BAR, LABEL REEL MOUNTING	1
02	UND-002	SHAFT, UNWIND	1
03	UND-003	ARM, UNWIND BRAKE	1
04	UND-004	SHAFT, BRAKE ARM	1
05	UND-006	BLOCK, BELT FASTENER	1
06	UND-007	CLAMP, BELT	2
07	UND-008	STUD, BRAKE ARM	1
08	UND-009-1	STRAP, BRAKE	1
09	UND-011C	HUB, MAIN UNWIND	1
10	UND-013	DISC, REMOVABLE LABEL	1
11	UND-015	DISC, UNWIND BACKING	1
12	UND-038	ROLLER, BRAKE IDLER	1
13	UND-037	BEARING, BRAKE ARM ROLLER	2
14	UND-019	CLAMP, INNER BACKING DISC	1
15	200409	CLIP, CORE (FOR HUB)	4
16	UND-042	CLAMP, OUTER BACKING DISC	1
17	UND-027	BEARING, END CAP ROLLER	1
18	430306	BUSHING, 750 X 500 X 625"	1
19	420210	SPRING, 1/2 X 3.125" EXTENSION	1
20	UND-046	BEARING, END CAP ROLLER	1
21	820000	THUMBSCREW, 1" BLACK NYLON	1
22	400059	BEARING, 5/8" THRUST W/WASHERS	1
23	856005	RING, 1/2" EXT. RETAINING	1
24	853003	WASHER, 1/4" .050 THK 5/8 ODFW	1
25	851002	SCREW, 1/4-20 X 1/2" HHMS	1
26	853001	WASHER, 5/16" FW SS	1
27	851003	SCREW, 5/16-18 X 1/2" HHMS SS	1
28	852001	SCREW, 10-32 X 1/2" FHMS PHIL	6
29	850001	SCREW, 1/4-20 X 1" L SHCS	1
30	850002	SCREW, 10-32 X 1" L SHCS	2
31	854001	NUT, 10-32 HEX	2
32	850003	SCREW, 5/16-18 X 1-1/4" L SHCS	1
33	850006	SCREW, 6-32 X 5/8" L SHCS	2
34	850004	SCREW, 5/16-18 X 1" L SHCS	1
35	852501	SCREW, 4-40 X 1/4" L PHMS PHIL	4
36	854007	NUT, 4-40 HEX SS	4



–	——	——	————	——	
REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY

DESCRIPTION: ASSEMBLY, RIGHT HAND UNWIND

PRODUCT: L-10, L-15, L-20, L-60, R-310, R-360 LABEL APPLICATORS

SCALE	DRAWN BY	REV. LEV.	REV. BY	CAD NO
—	G.T.H.	X	G.T.H.	UWA-13R-I-00
DATE 5-7-1999				

PART NUMBER: UWA-13R-I-00

universal™ LABELING SYSTEMS INC.
3501 8TH AVENUE SOUTH
ST. PETERSBURG, FLORIDA 33711
TEL. (727) 327-2123

SWITCH, MICRO
P/N 200109

CONNECTOR, 15 PIN EDGE
P/N 200022

MODULE, POWER
P/N 200198

TRANFORMER AC IN
+12VDC
CODER AIR VALVE
START NO NC
STOP NO NC
CODER DWELL POT

ARC SUPPRESSOR

DPDT
RELAY
P/N 200009

TRANSFORMER,
110VAC TO 15VAC
P/N 200111

SECONDARY
18 VOLT AC

PRIMARY
110 VAC

CODER JACK
5 PIN AMPHENOL
P/N 200017

VARISTOR
P/N 200057

P/N 200021D

SOCKET, SYRELEC TIMER MNTG.
P/N 200114

RESISTOR
P/N 240135

PRODUCT DRIVE
TIMER, (CROUZET)
P/N 200113

PRODUCT DRIVE
MOTOR, CCW W/O/BRAKE
P/N 300051
110VAC 100RPM

LABEL ADVANCE
MOTOR, CW W/BRAKE
P/N 300050
110VAC 100RPM

SWITCH, DPST TOGGLE
P/N 200030

FUSE FUSE

VARISTOR
P/N 200057

VALVE, 120VAC 3WY MAC AIR
P/N 100099

FOOT SWITCH JACK
3 PIN AMPHENOL
P/N 200013

ASS'Y, R310 FOOT SWITCH
P/N 200090B

COM N.C. N.O.

L3 L2 L1

115Vac
IN

FUSE HOLDER P/N 200005
5 AMP FUSE P/N 200044
MACHINE W/CODER INSTALLED GETS 7 AMP FUSE
7 AMP FUSE P/N 200045

OPTIONAL OLS ASSY.

PINK to PIN 12 OF 200022

P/N 210120
** STAR WHEEL CABLE
SENSOR, SMARTEYE EZPRO

P/N 200374
** STAR WHEEL CABLE
SENSOR, DATALOGIC SLOT

P/N 210077
** STAR WHEEL CABLE
SENSOR, CLEAR LABEL

OPTIONAL 230VAC TO 115VAC TRANSFORMER

GRN GROUND
230Vac
IN

110VAC GROUND 230VAC

TRANSFORMER, 230VAC TO
115VAC P/N 200440

REV	DATE	ECO	REVISION RECORD	CHANGE BY	CHKD BY
F	6-4-02	—	ADDED 3 VARISTORS AND 1 RESISTOR	J.K.P.	
E	1-31-01	—	ADDED OPTIONAL 230VAC TO 115VAC TRANSFORMER & OLS P/N 210077	G.T.H.	
D	2-27-01	—	ADDED OLS P/N 210120 & FOOT SWITCH	G.T.H.	
C	12-4-00	—	ADDED OLS P/N 200374	G.T.H.	

DESCRIPTION: ELECTRICAL DIAGRAM
PRODUCT: R-310 SEMI-AUTOMATIC PRODUCT LABEL APPLICATOR
DRAWN BY: D.B.P.
DATE: 06/02/1992
JOB NUMBER
PART NUMBER
PRINT NUMBER: 310-E-00

universal™ LABELING SYSTEMS INC.
3501 8TH AVENUE SOUTH
ST. PETERSBURG, FLORIDA 33711
TEL. (727) 327-2123